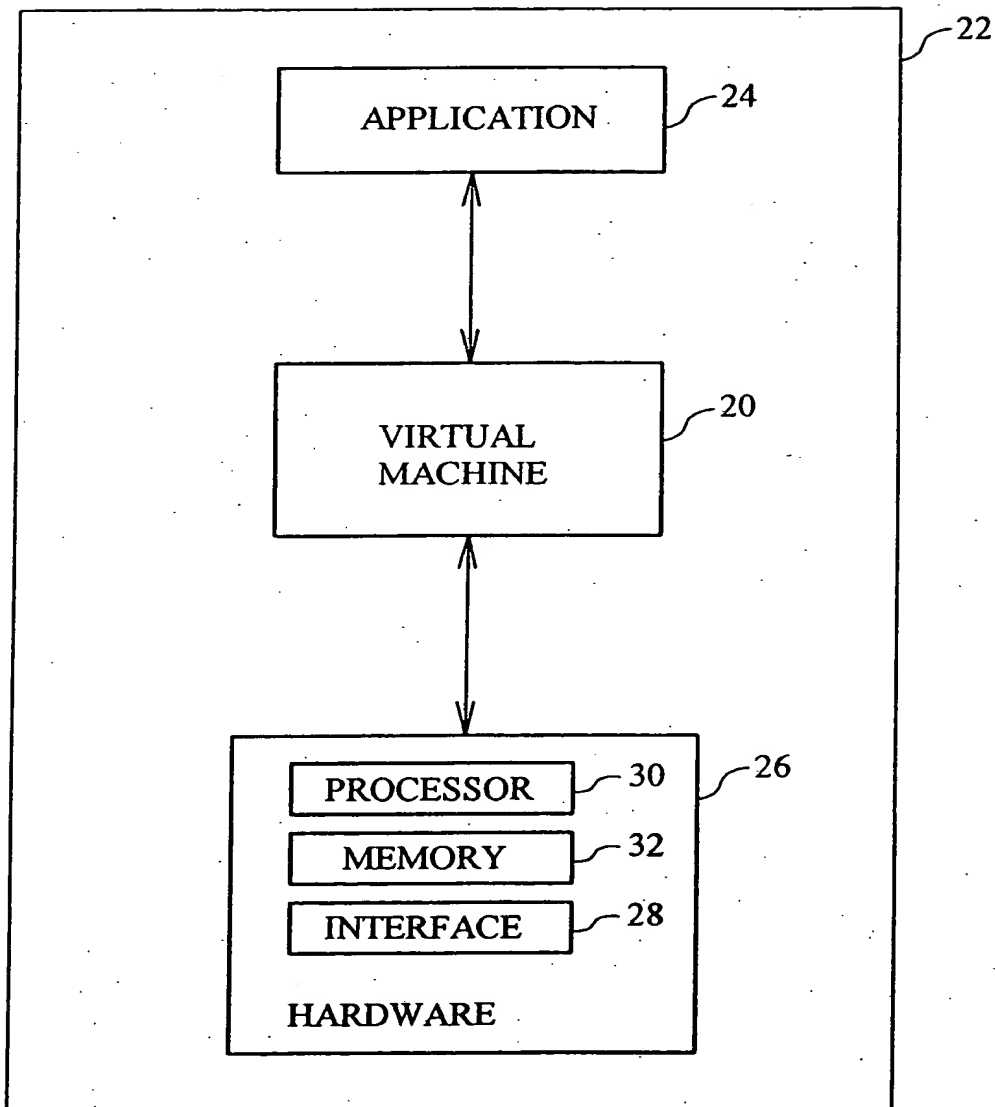


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Fig. 1



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Fig. 1A

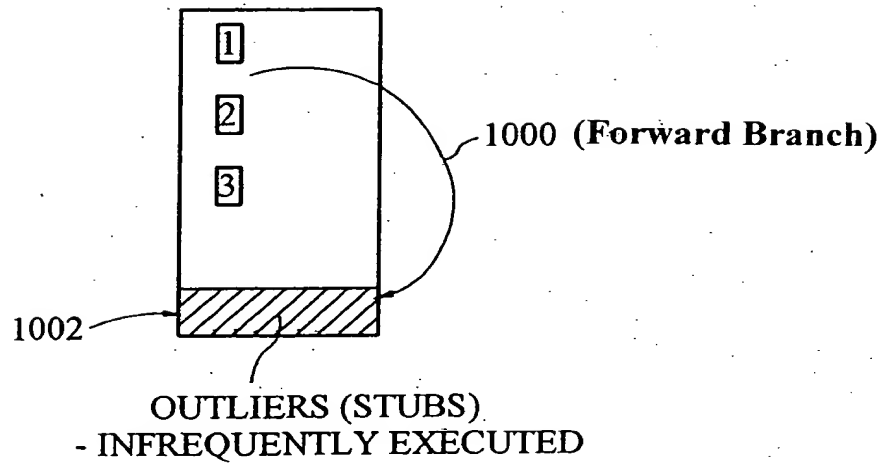
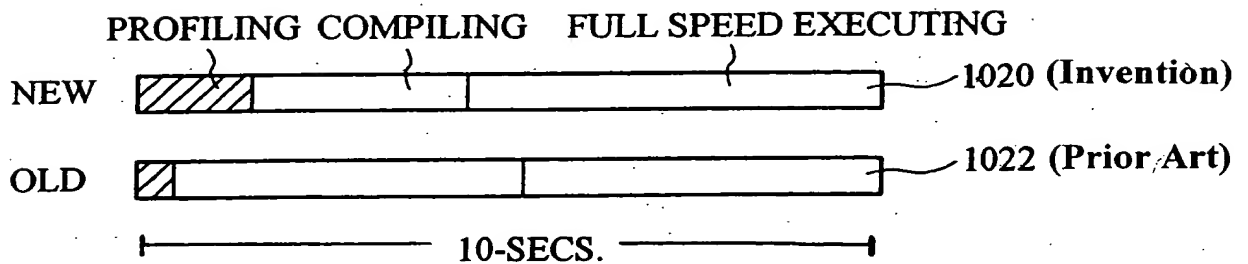


Fig. 1B



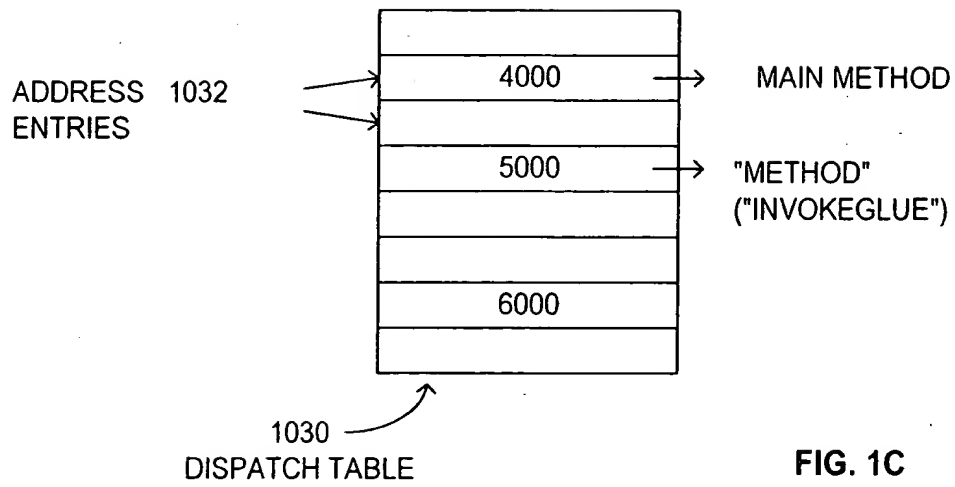


FIG. 1C

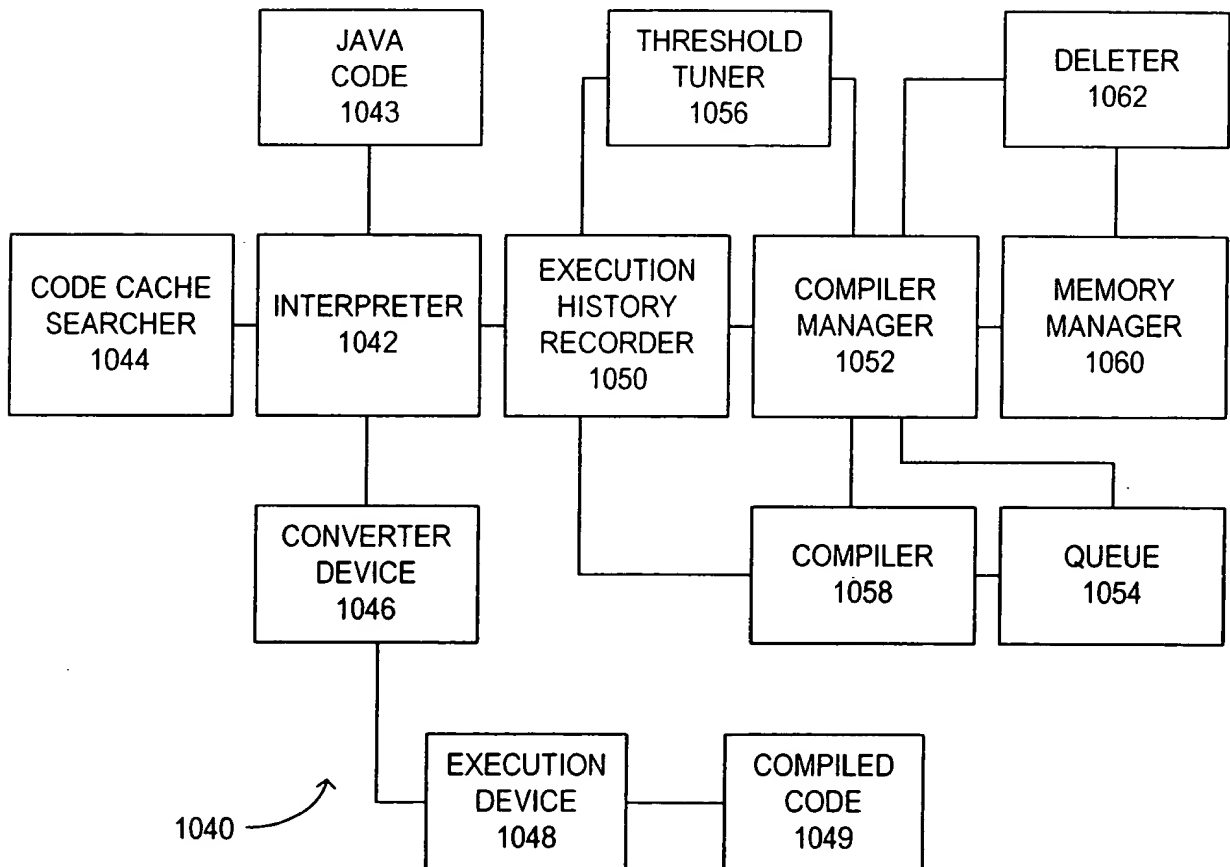


FIG. 1D

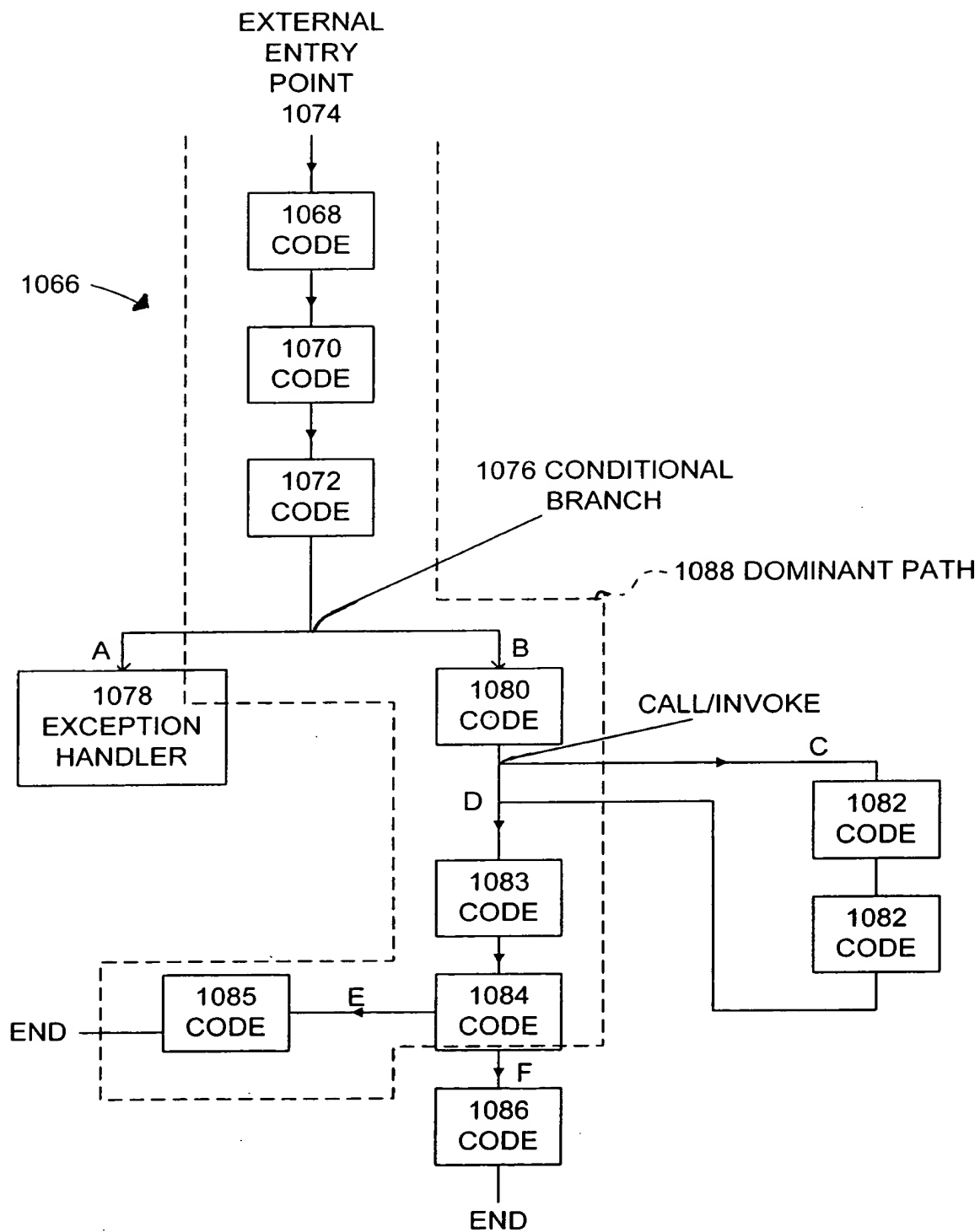


FIG. 1E

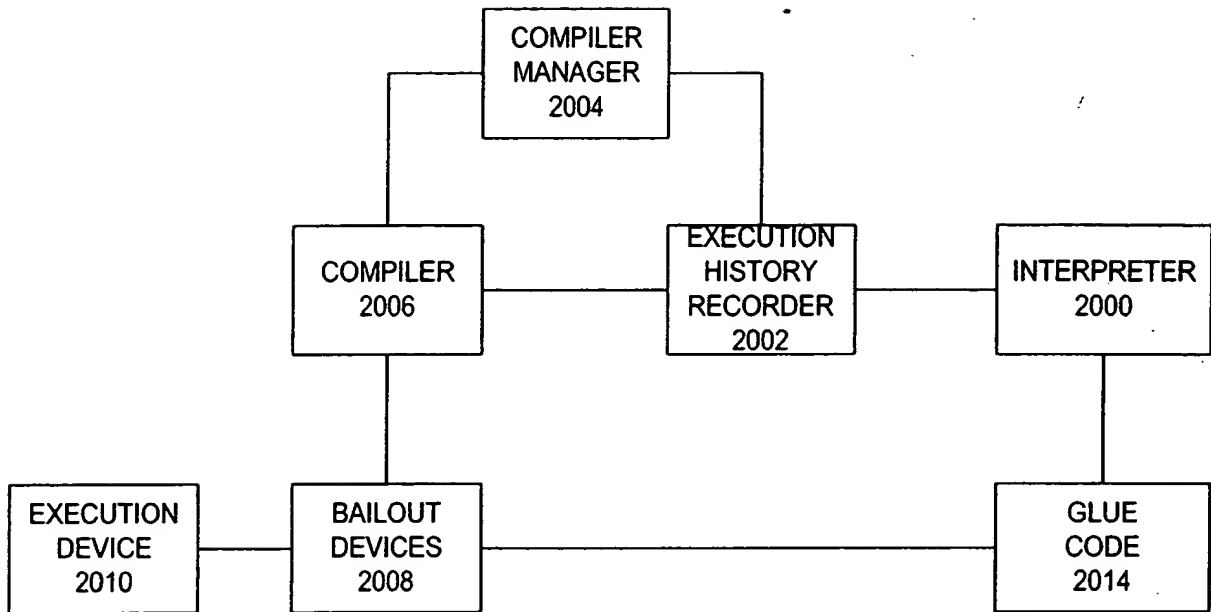


FIG. 2A

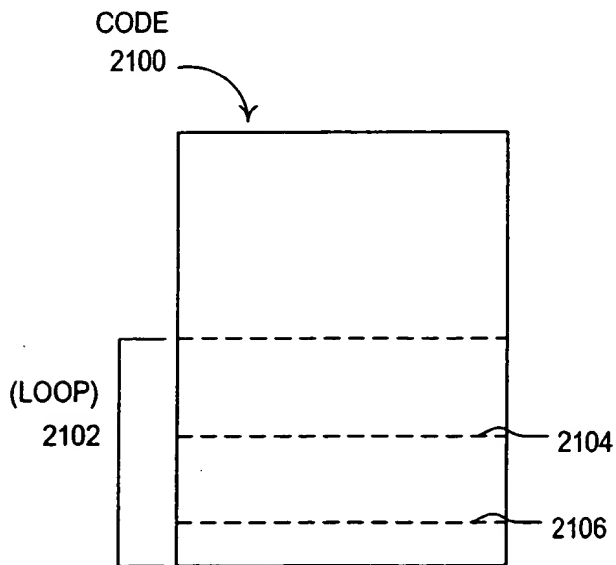


FIG. 2B

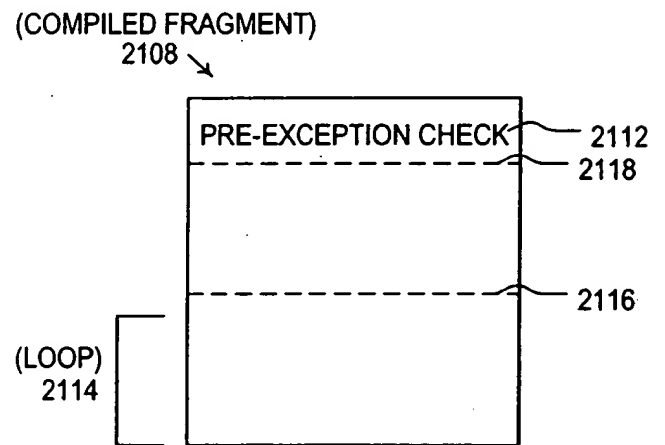


FIG. 2C

FIG. 3A

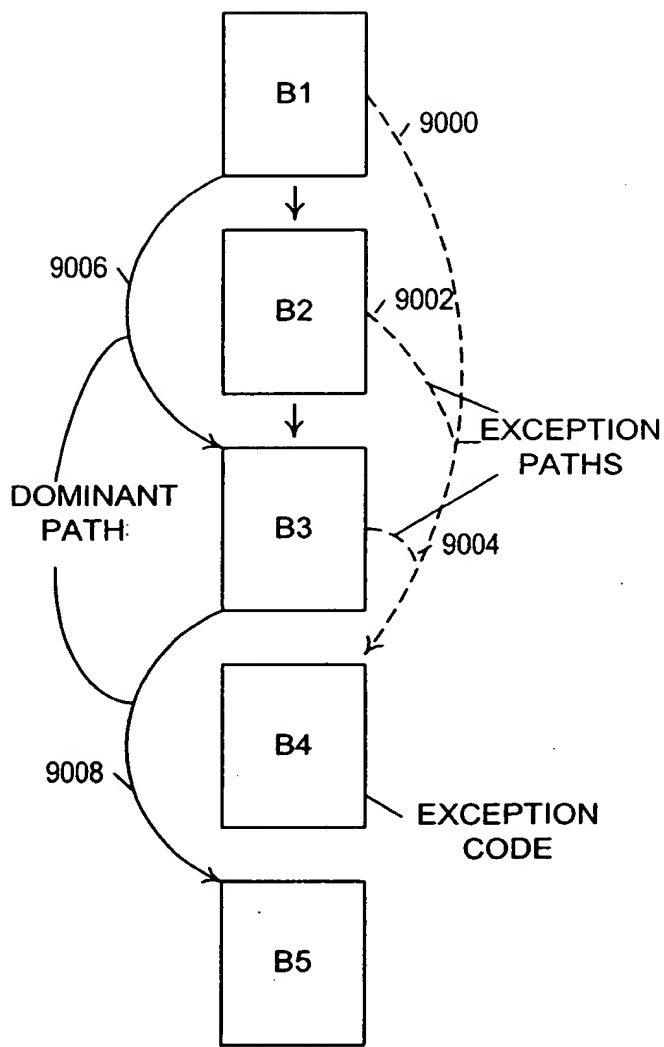


FIG. 3B

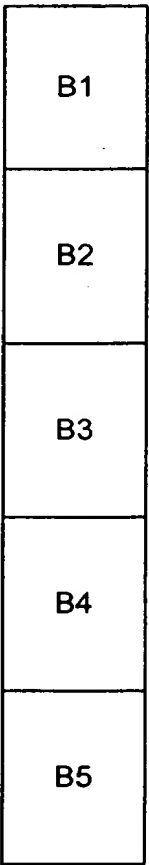
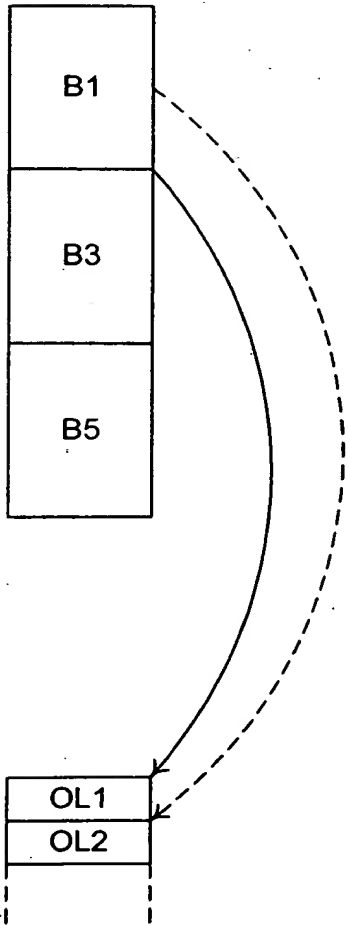


FIG. 3C



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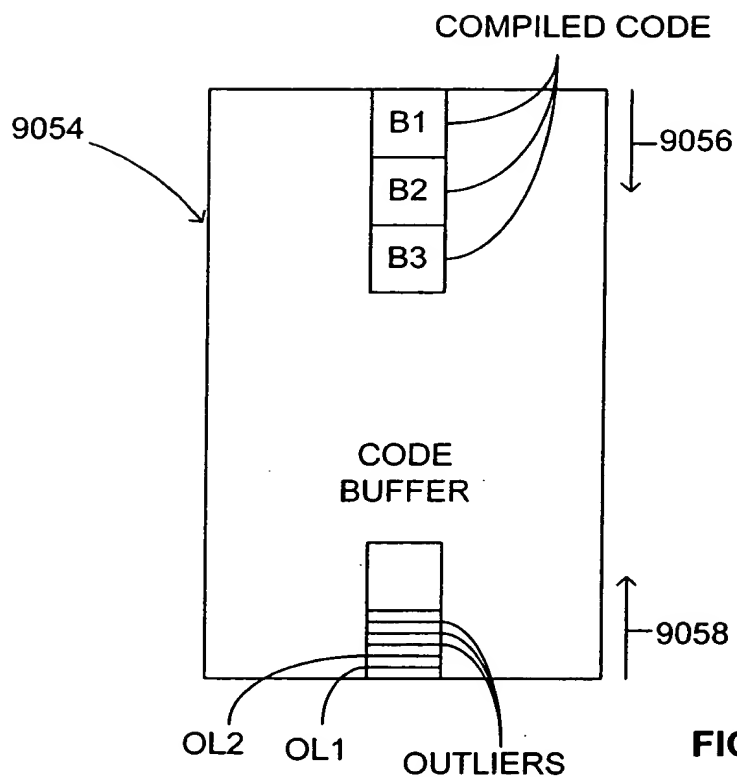
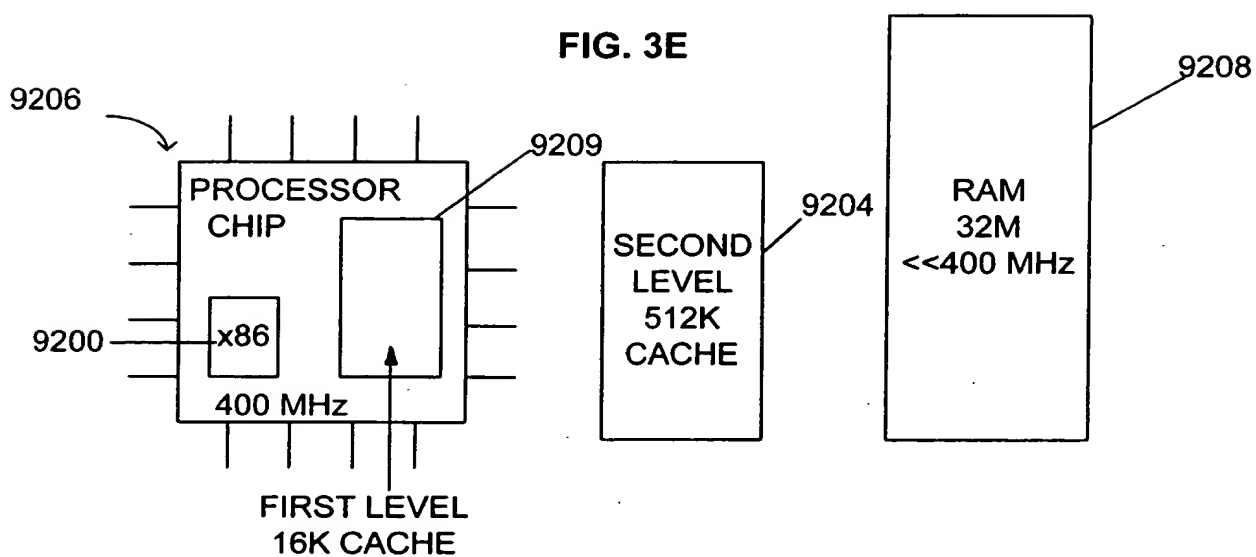


FIG. 3D

FIG. 3E



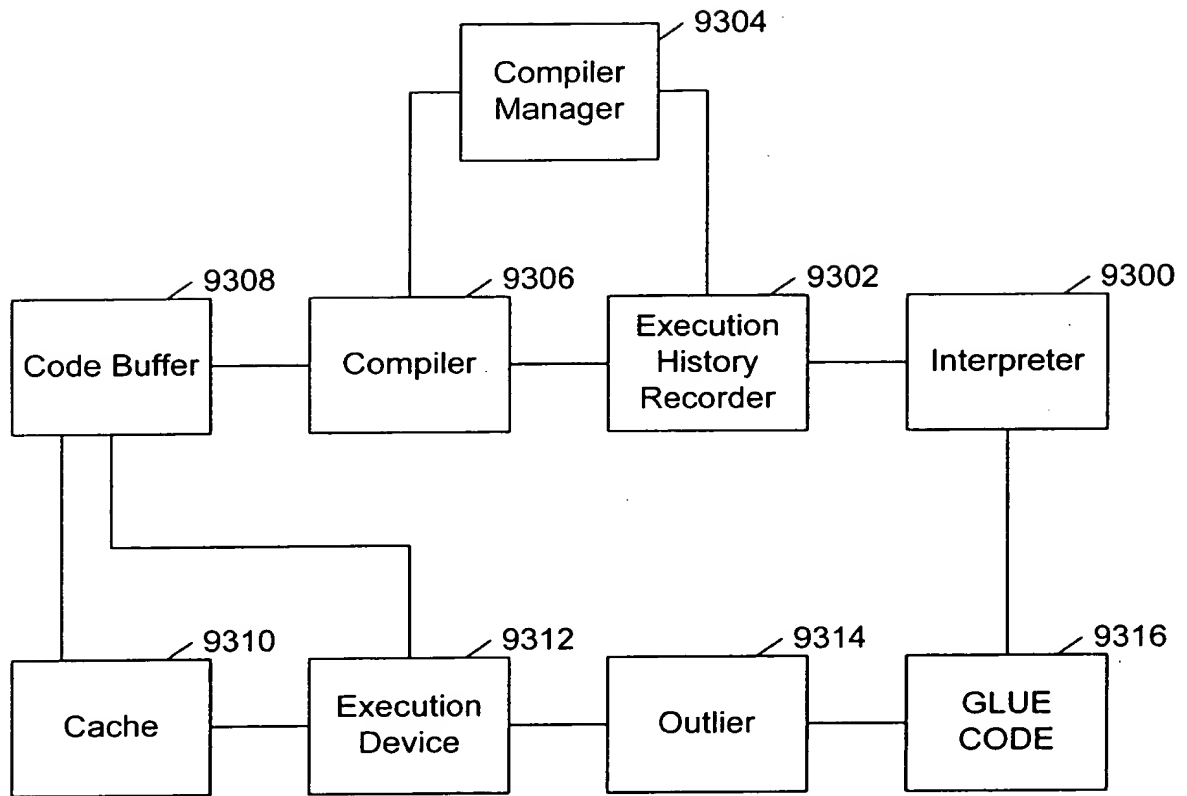
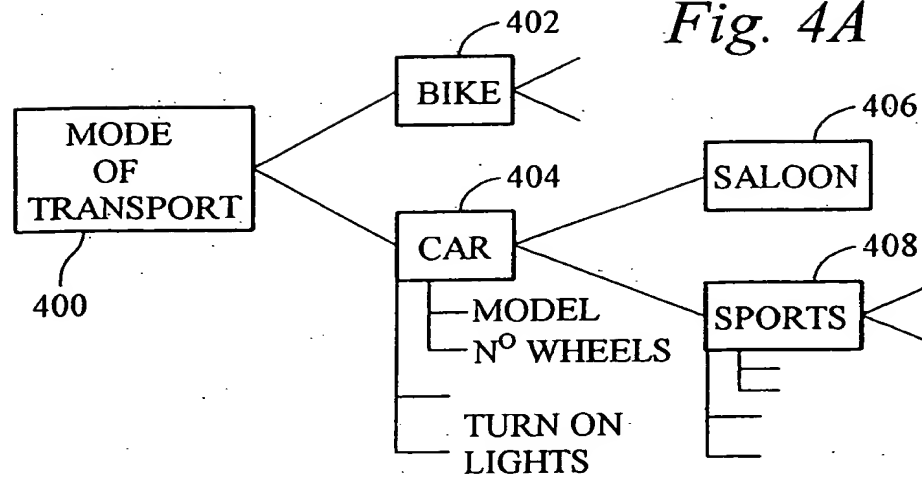
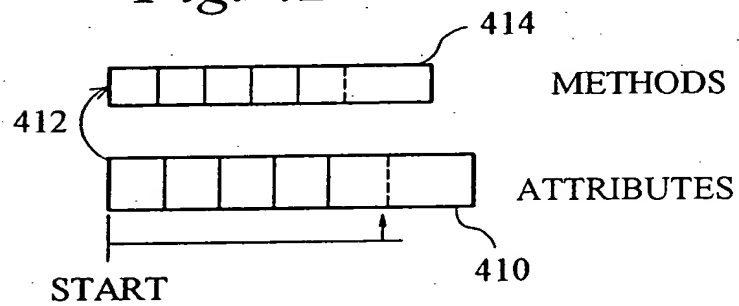
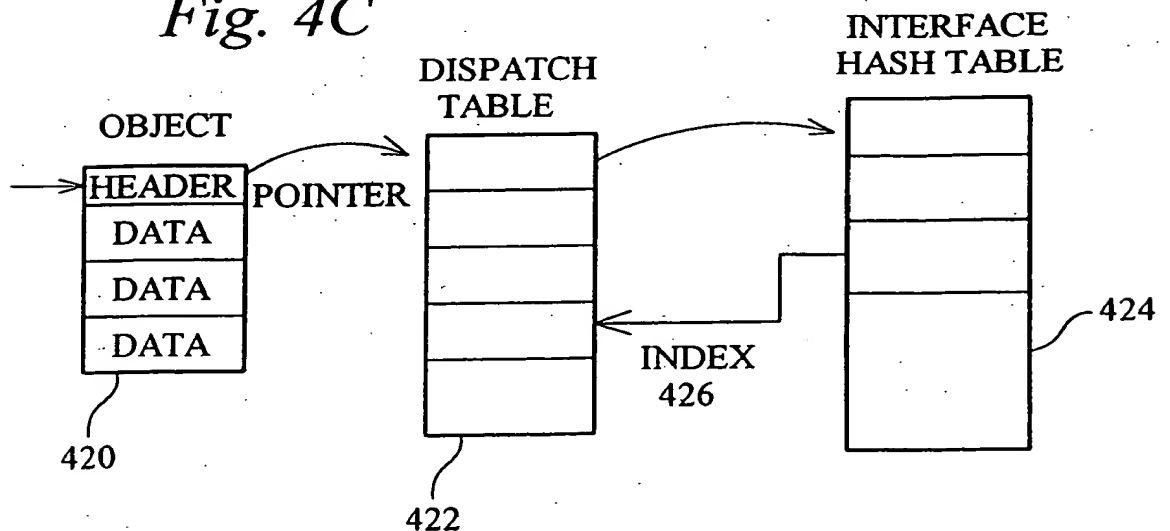


FIG. 3F

Fig. 4A*Fig. 4B**Fig. 4C*

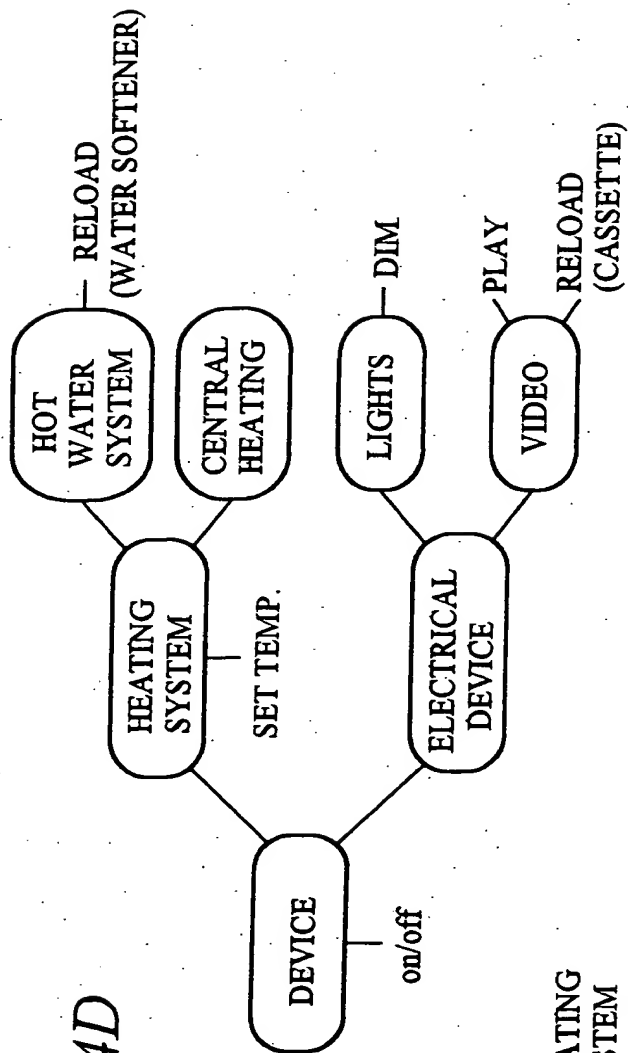


Fig. 4D

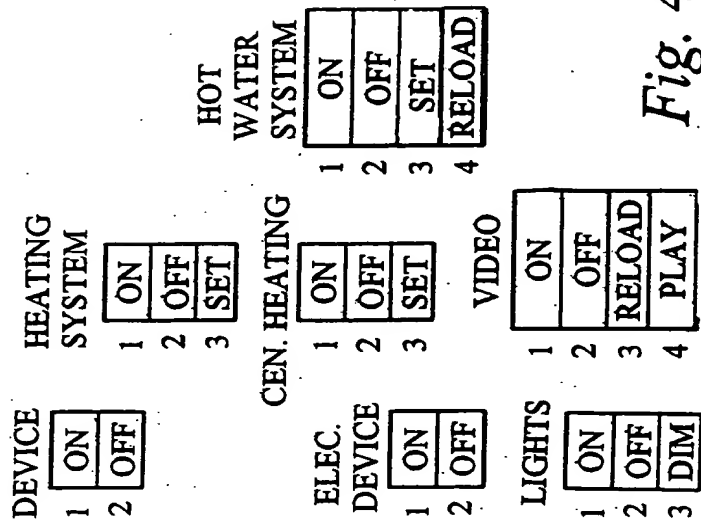


Fig. 4E

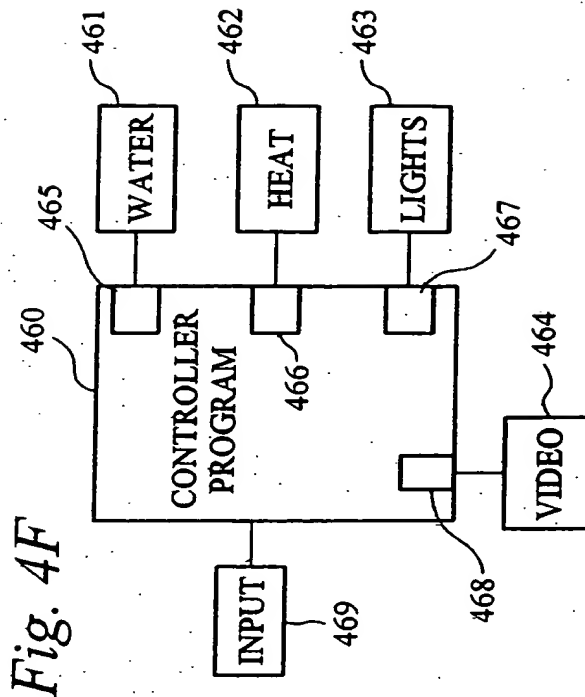


Fig. 4F

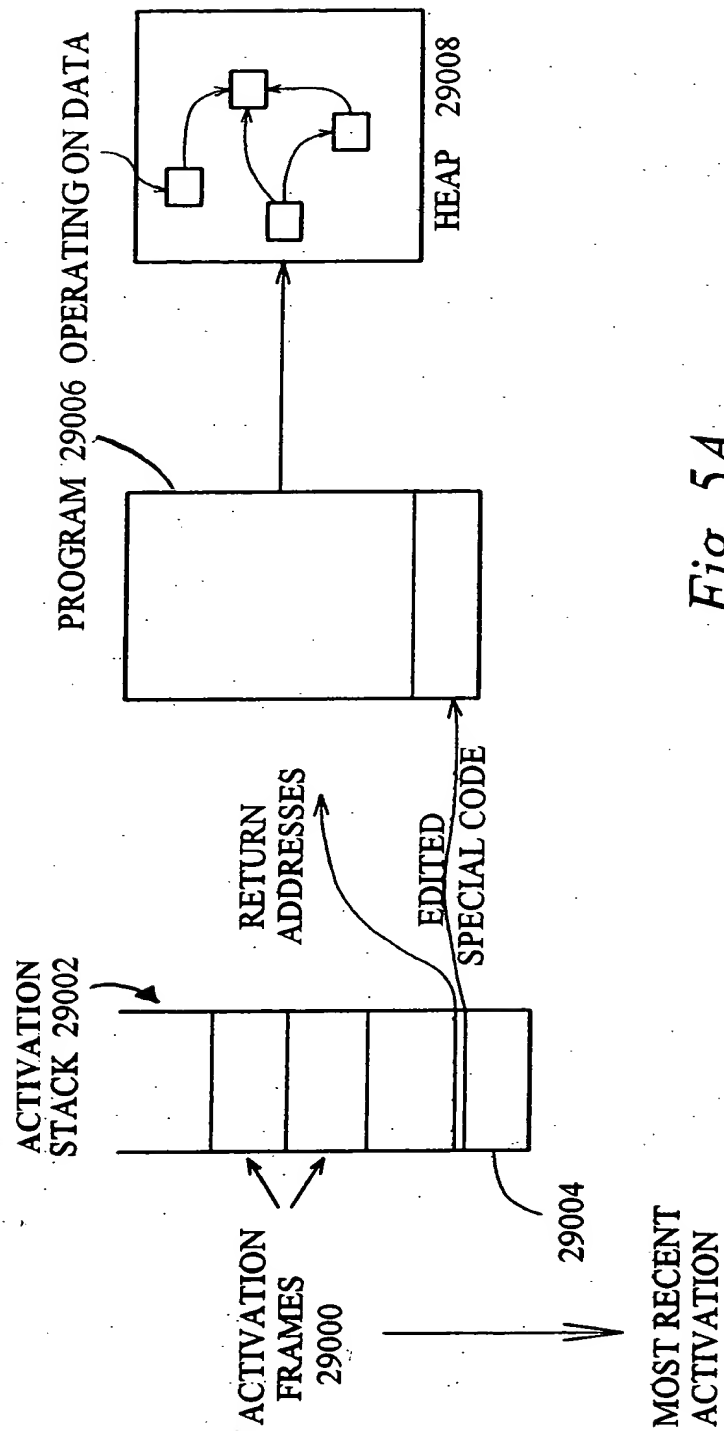


Fig. 5A

Fig. 5B

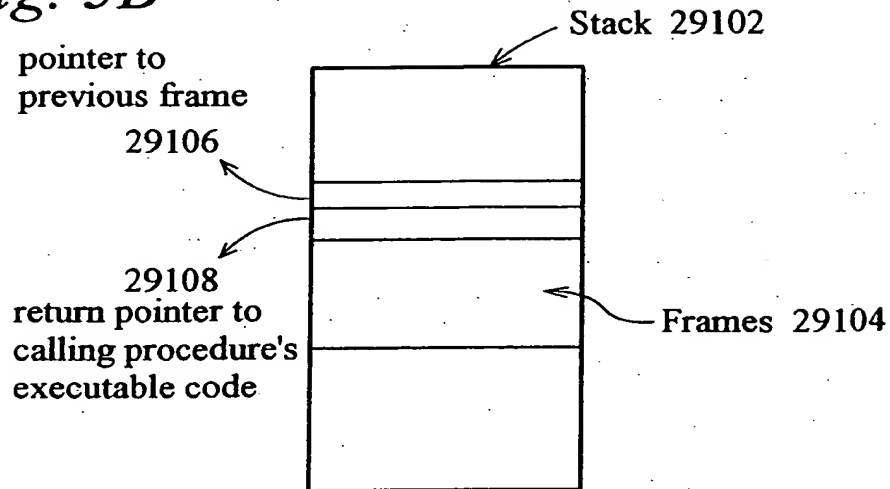


Fig. 5C

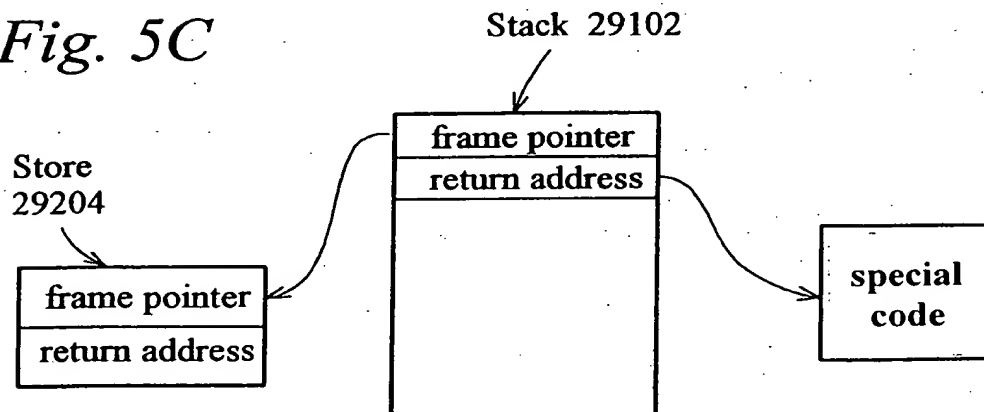


Fig. 5D

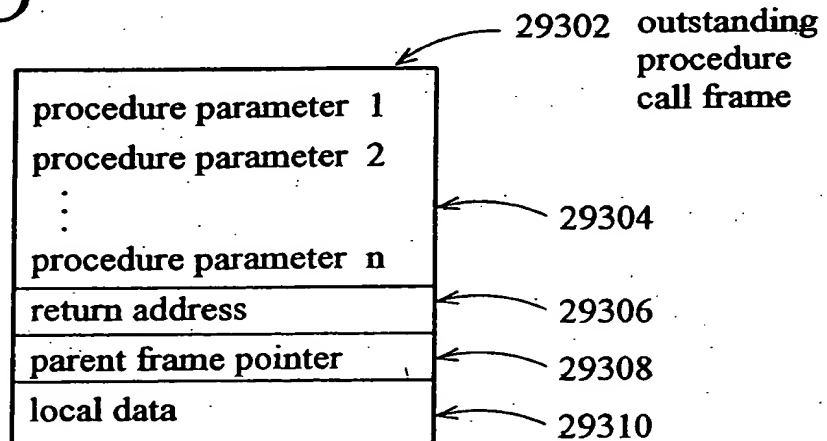
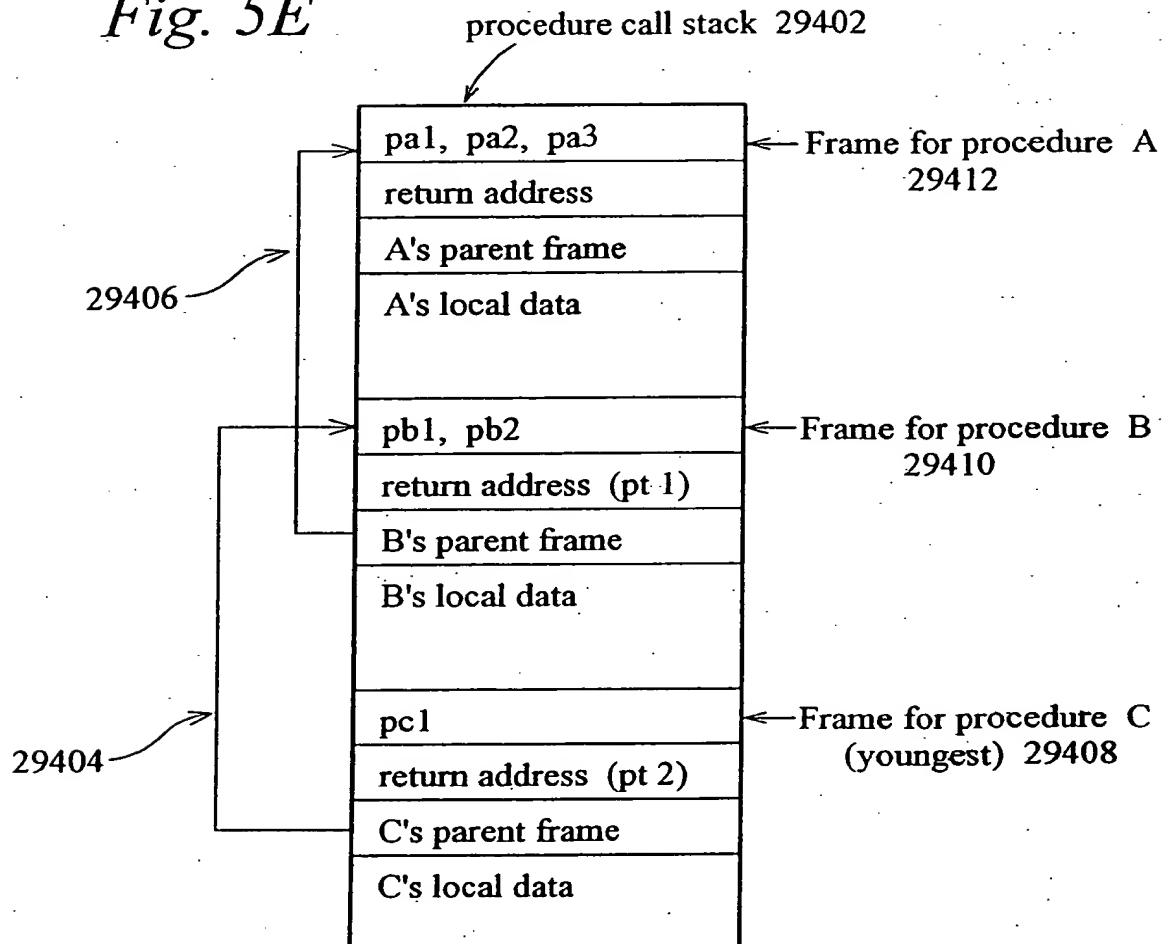
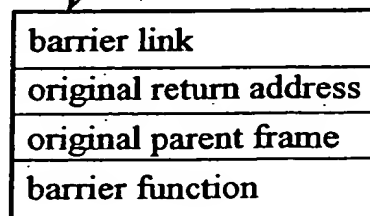
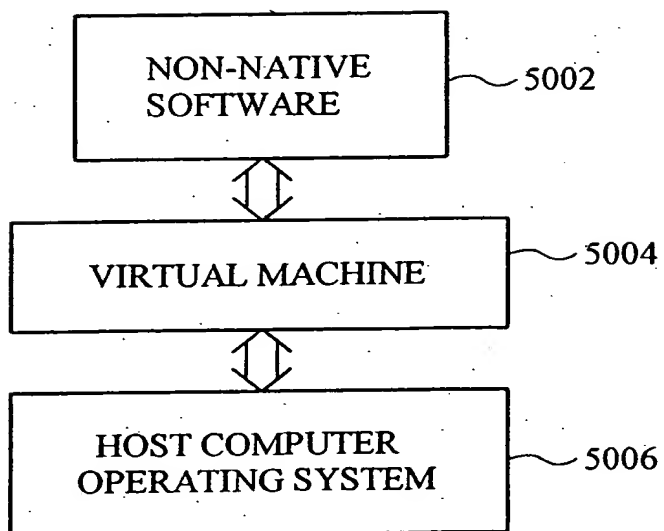


Fig. 5E*Fig. 5F*

barrier descriptor block 29502



*Fig. 6A*

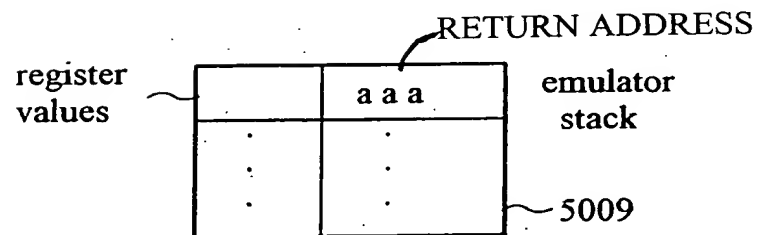
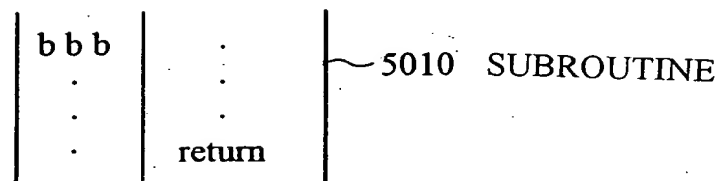
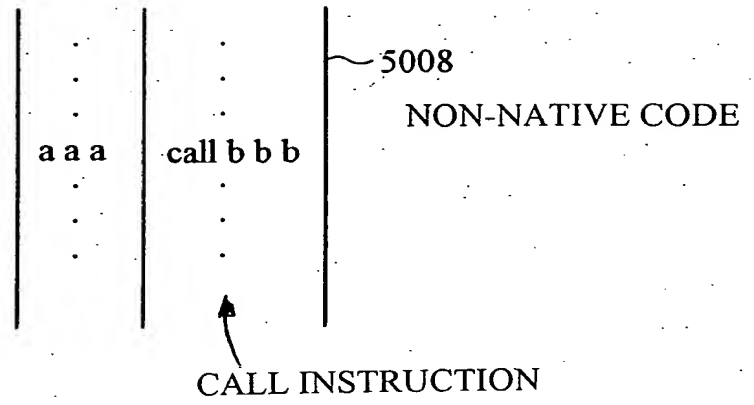


Fig. 6B

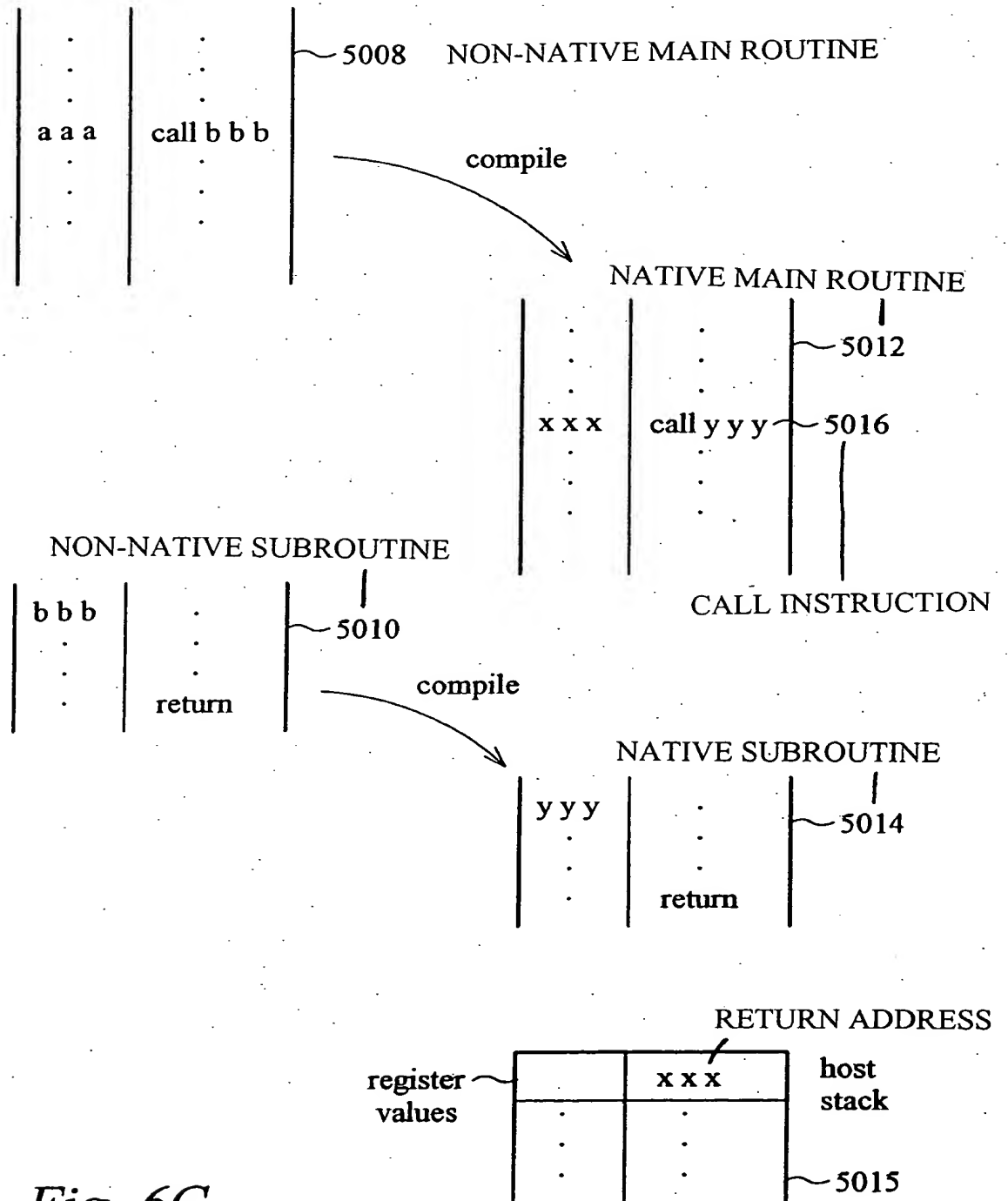
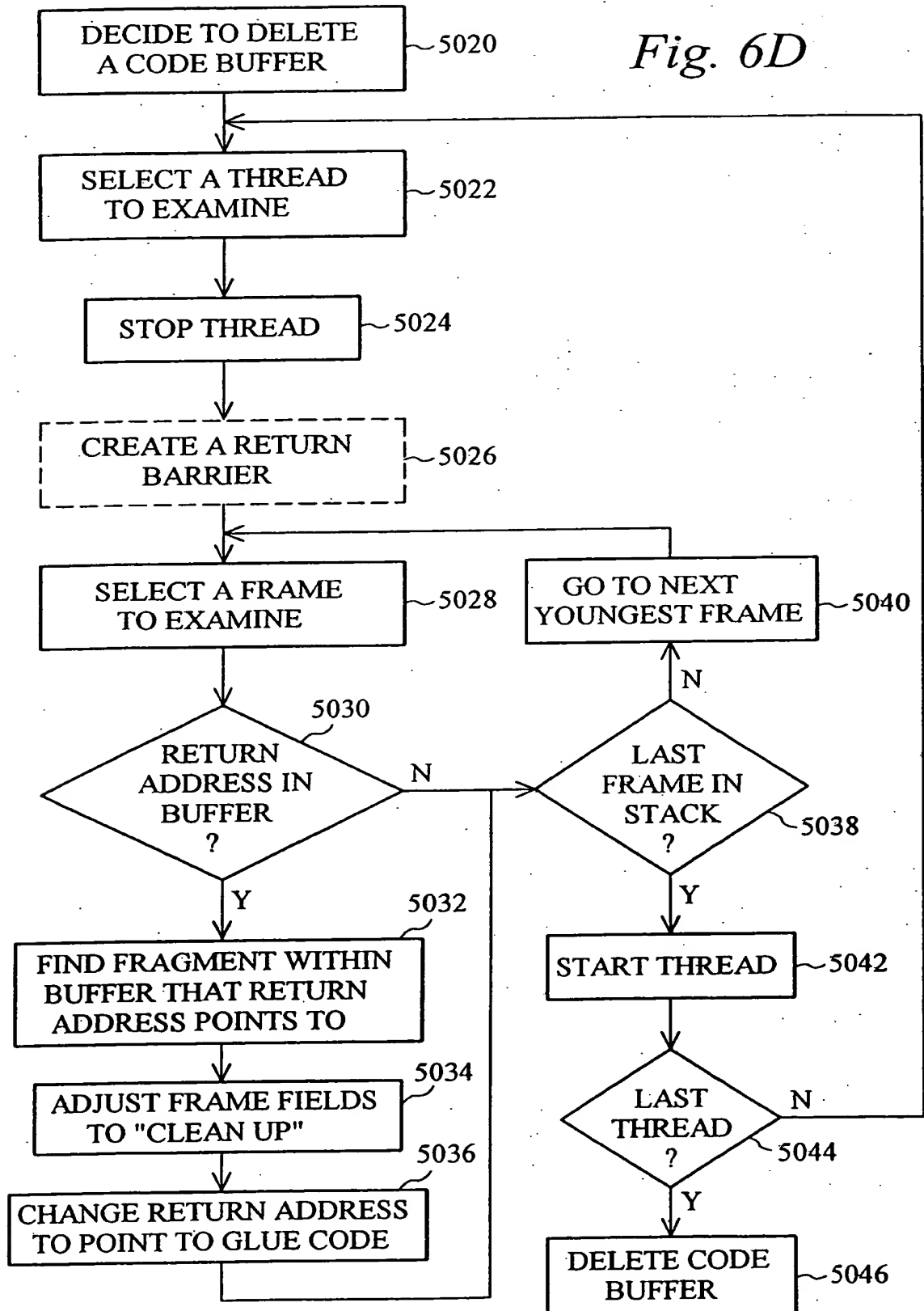


Fig. 6C

Fig. 6D



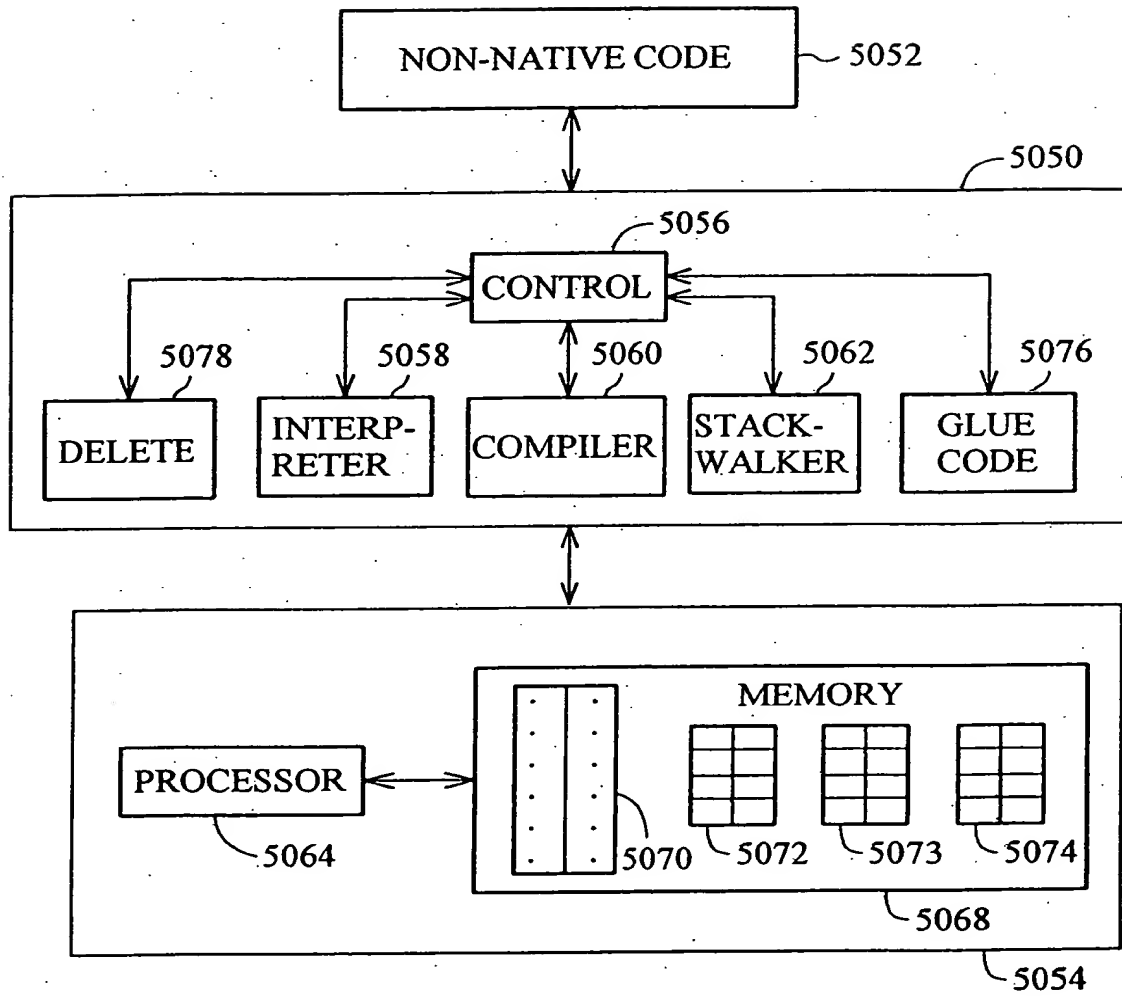
*Fig. 6E*

Fig. 7A

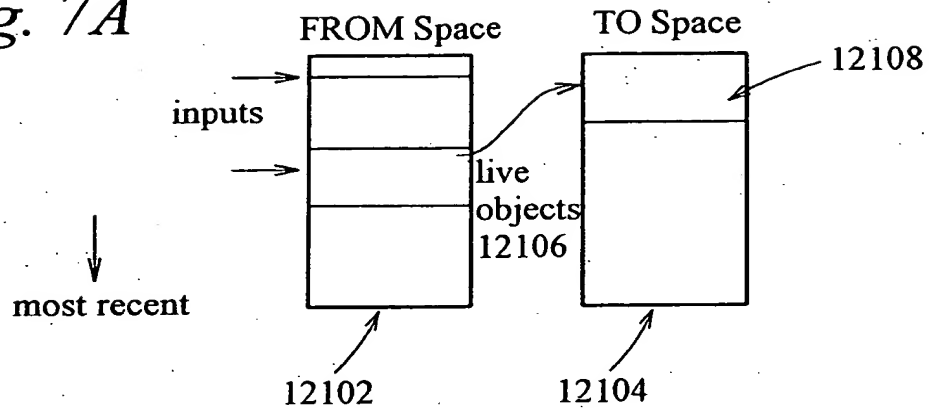


Fig. 7B

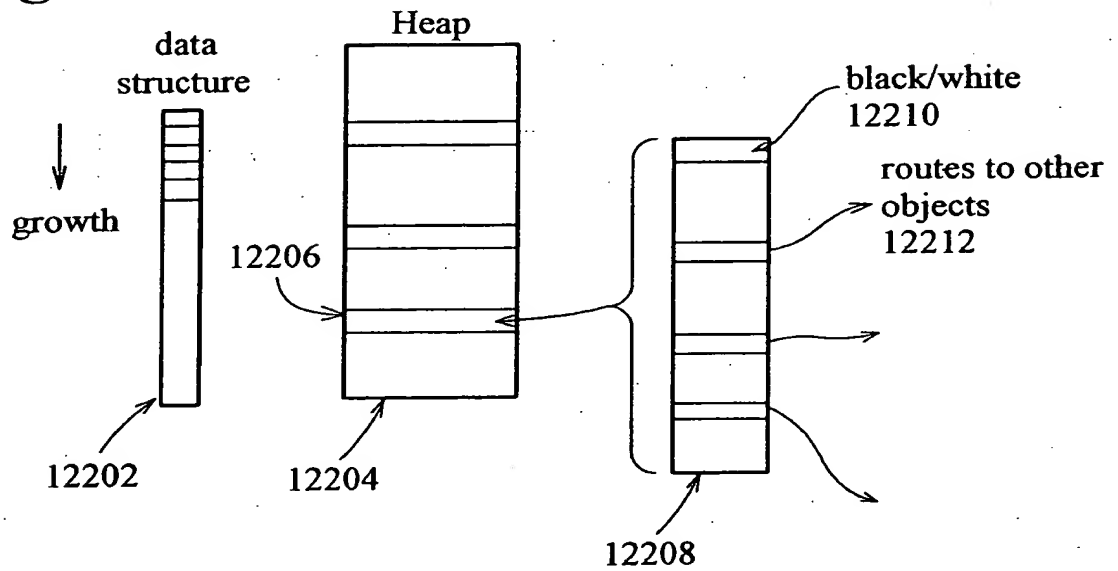


Fig. 7C

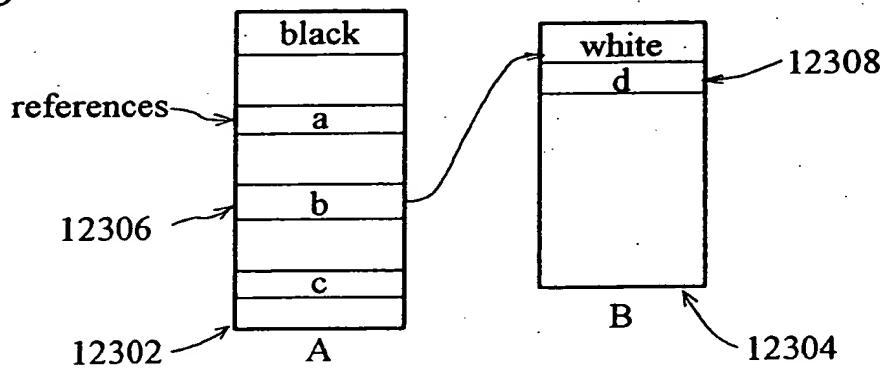


Fig. 7D

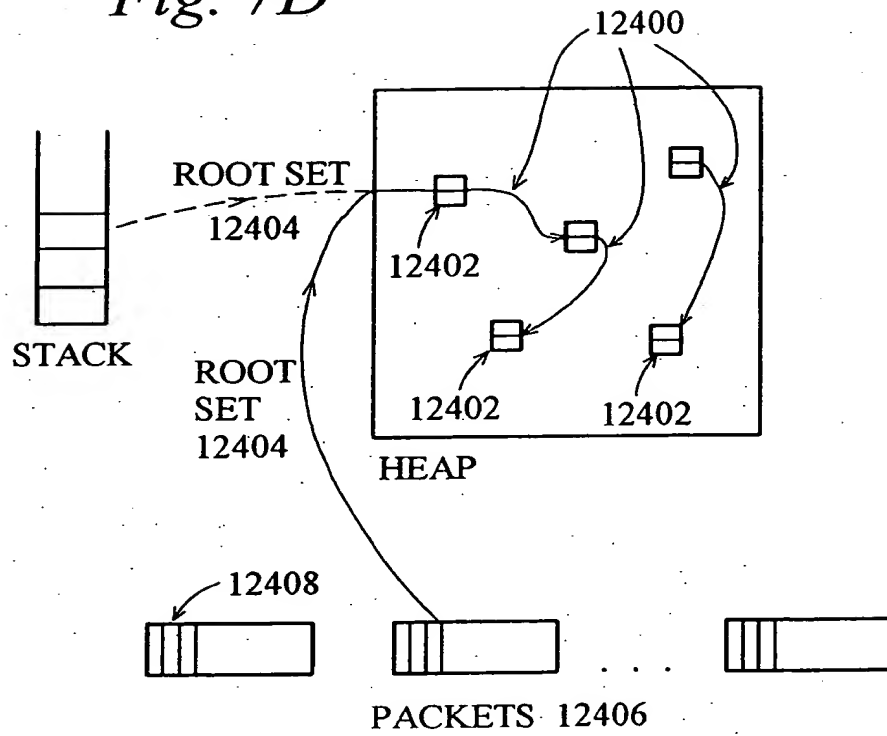


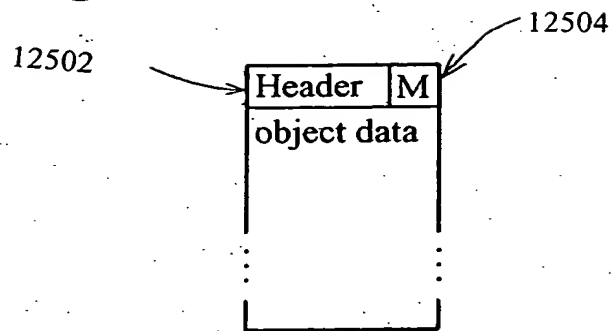
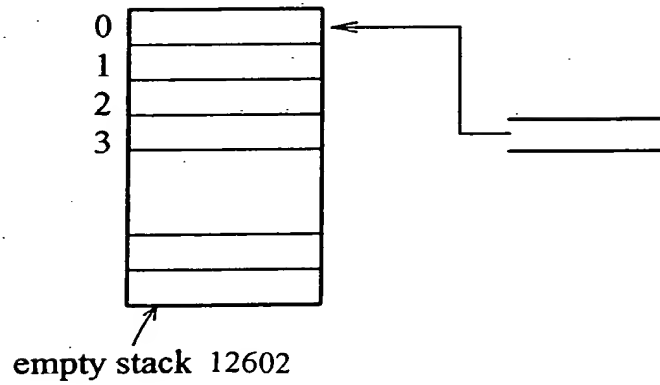
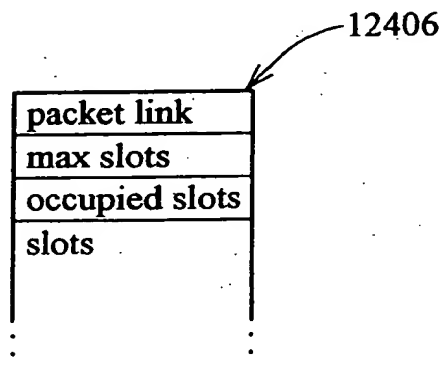
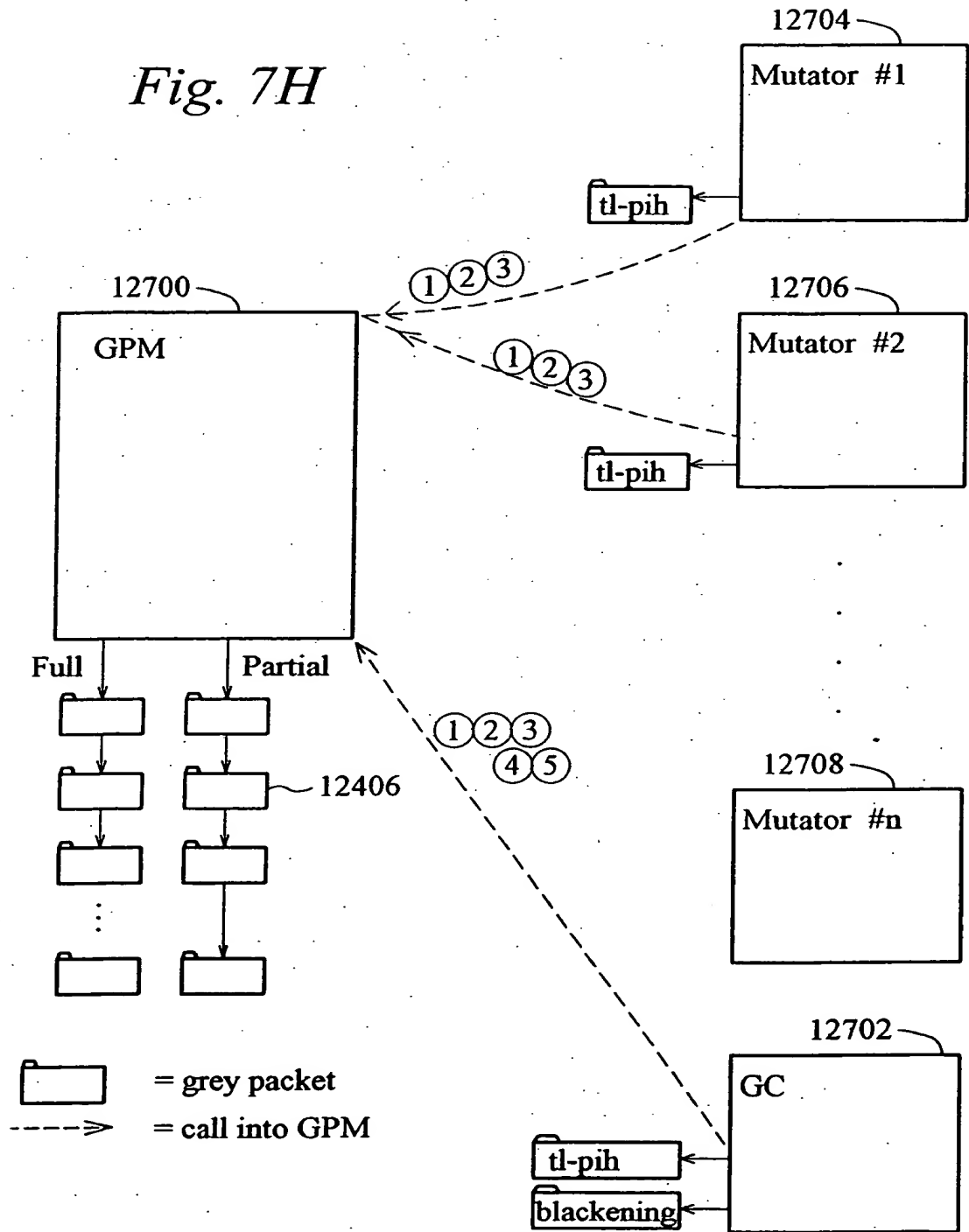
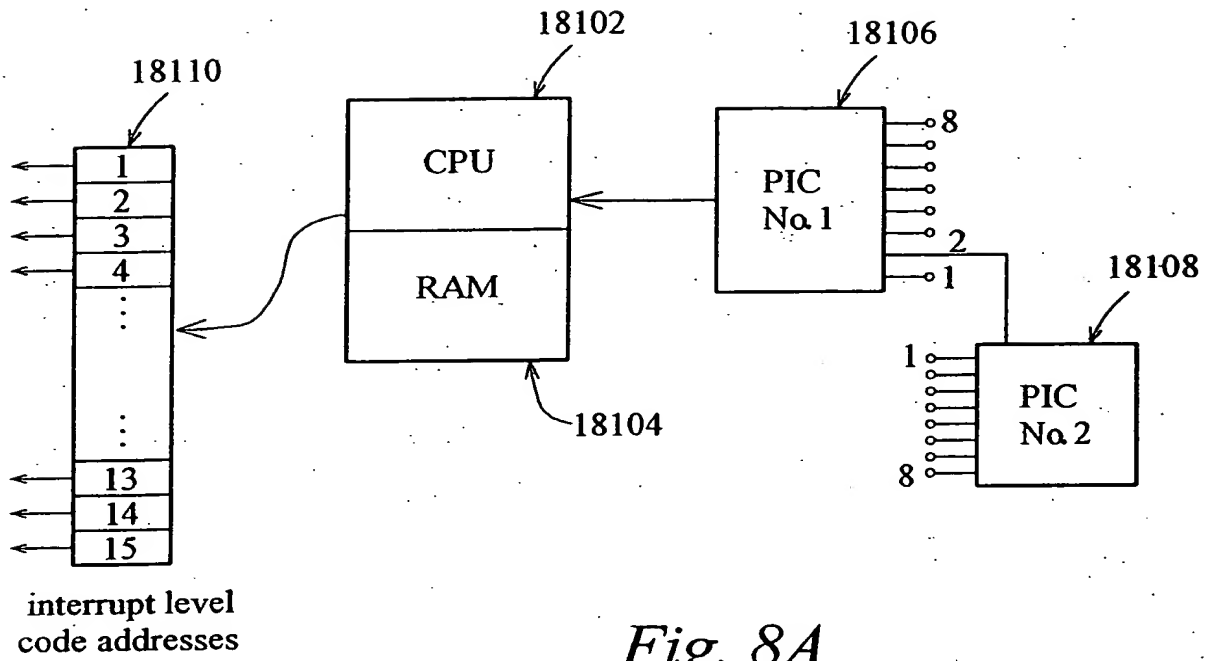
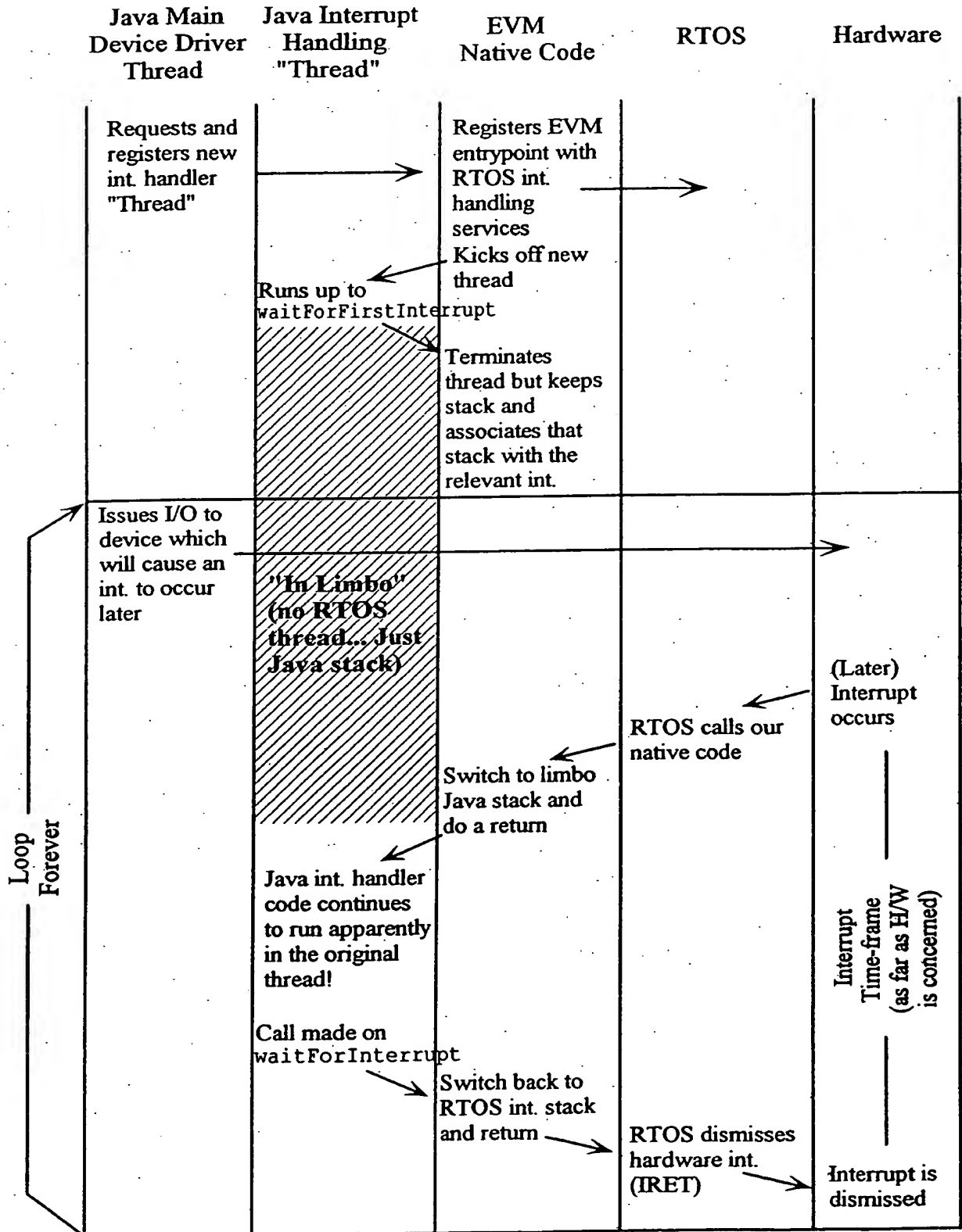
Fig. 7E*Fig. 7F**Fig. 7G*

Fig. 7H



*Fig. 8A*

Sequence of Events for Various System Components *Fig. 8B*

*Fig. 8C-1***Pseudo-code of a Java Interrupt Handler**

```

public void run ( )
{
    // The run method of an example interrupt handling thread

    // Wait for the first interrupt
    if ( !waitForFirstInterrupt ( ) )
    {
        throw new RuntimeException ( "Error waiting for 1st interrupt" );
    }

    // We are now running at interrupt level!

    while (true)
    {
        // Now handle the interrupt that just occurred (this involves
        // reading a device register)

        byte value = dev.readByte (DEV.DATA_REG);

        if ( ( value & DEV.GOING_SYNC) != 0 )
        {
            // We enter a sub-loop handling interrupts while in
            // "synchronous mode"

            boolean stillSync = true;
            do
            {
                // Wait for the next interrupt to occur

                waitForInterrupt ( ) ;

                // Read the hardware data register

                value = dev.readByte (DEV.DATA_REG);
            }
        }
    }
}

```

go to Fig. 8C-2

*Fig. 8C-2**from Fig. 8C-1*

```

// Decide if the value means that we are switching back
// to "async mode"

if ( (value & DEV.GOING_ASYNC) == 0)
{
    // Handle "synchronous mode" interrupt here (just
    // write the device data to non-interrupt code via
    // the special channel)

    specialChannel.write (value);
}
else
{
    // Wait for the next interrupt to occur then return
    // to the outer "async" loop

    waitForInterrupt ( ) ;
    stillSync = false;
}
}
while (stillSync)
}

// Handle "asynchronous mode" interrupts here (just write the
// device data to non-interrupt code via the special channel)

specialChannel.write (value) ;

waitForInterrupt ( ) ;
}
}

```

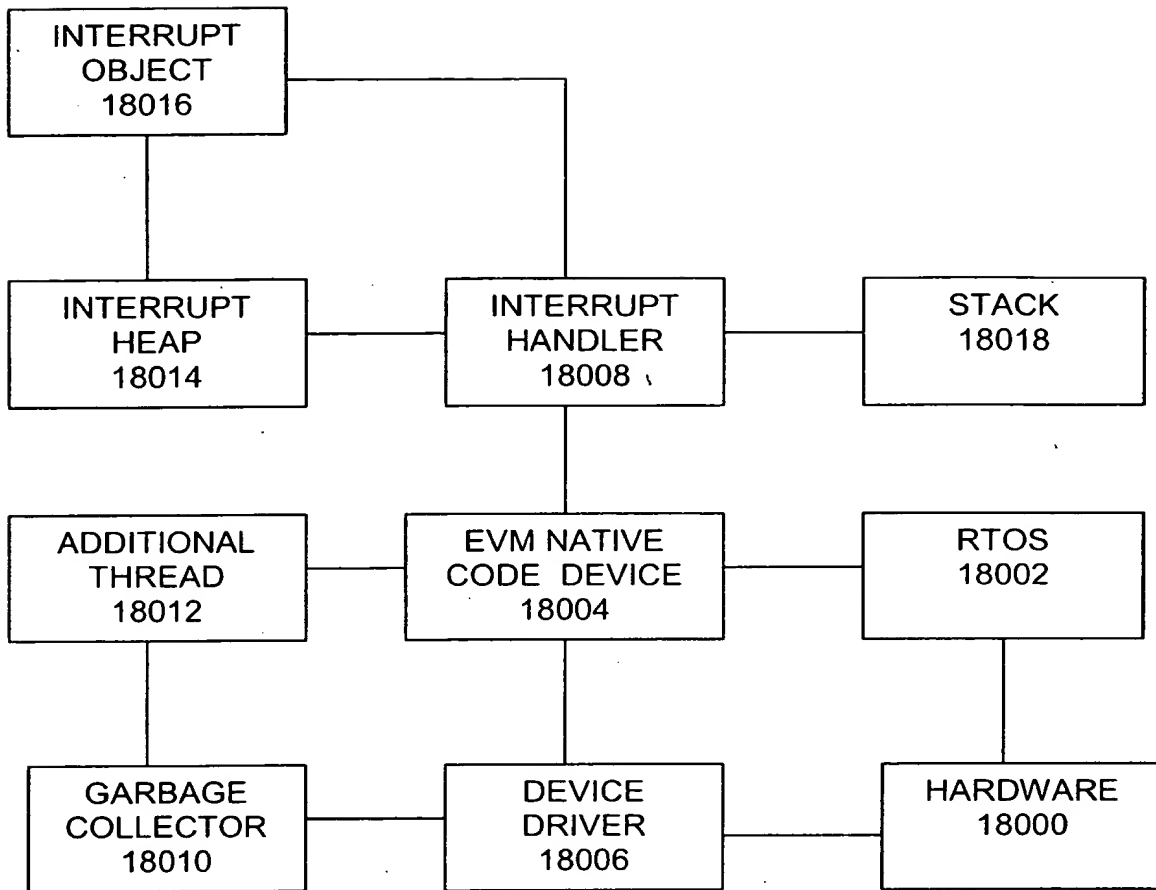
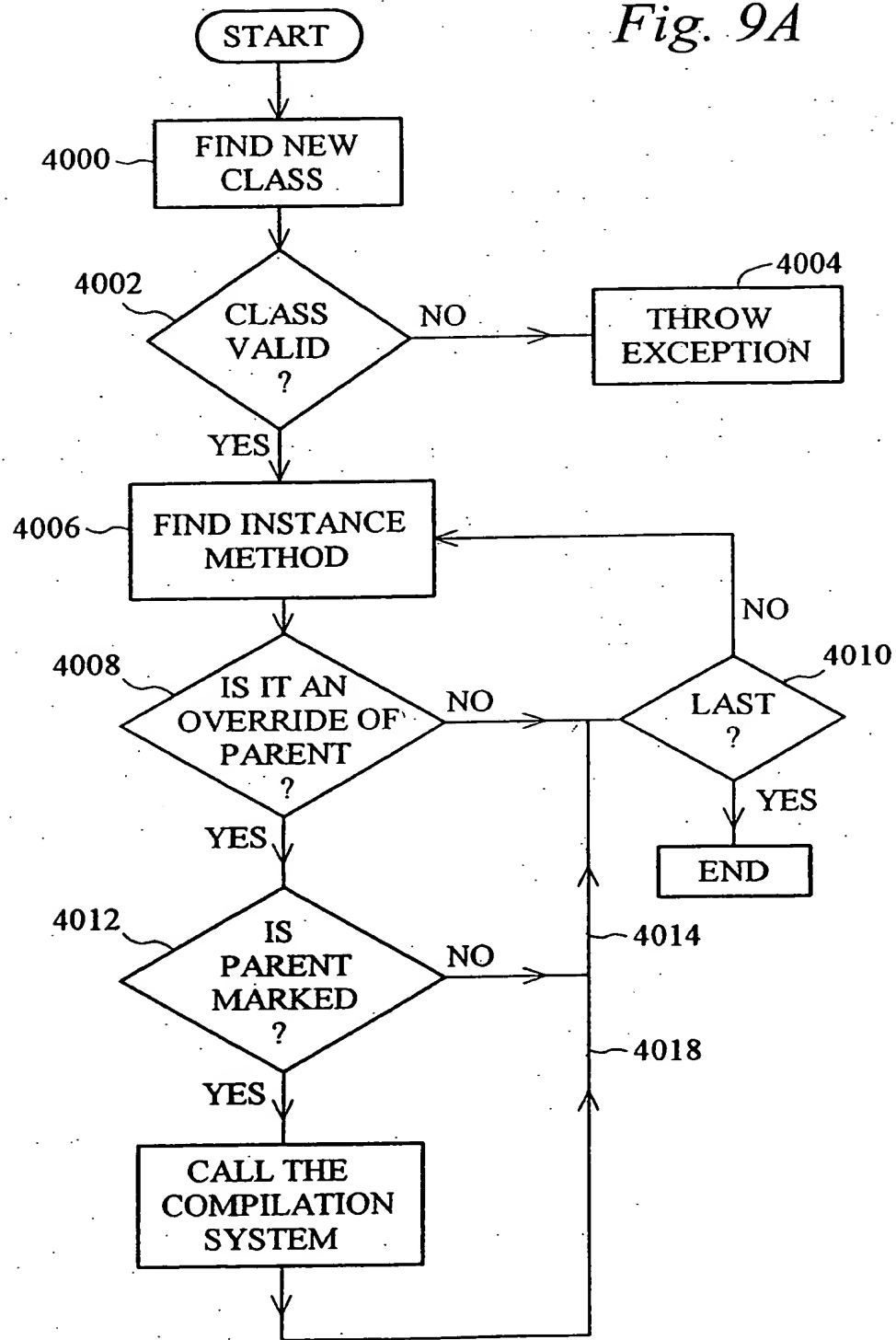
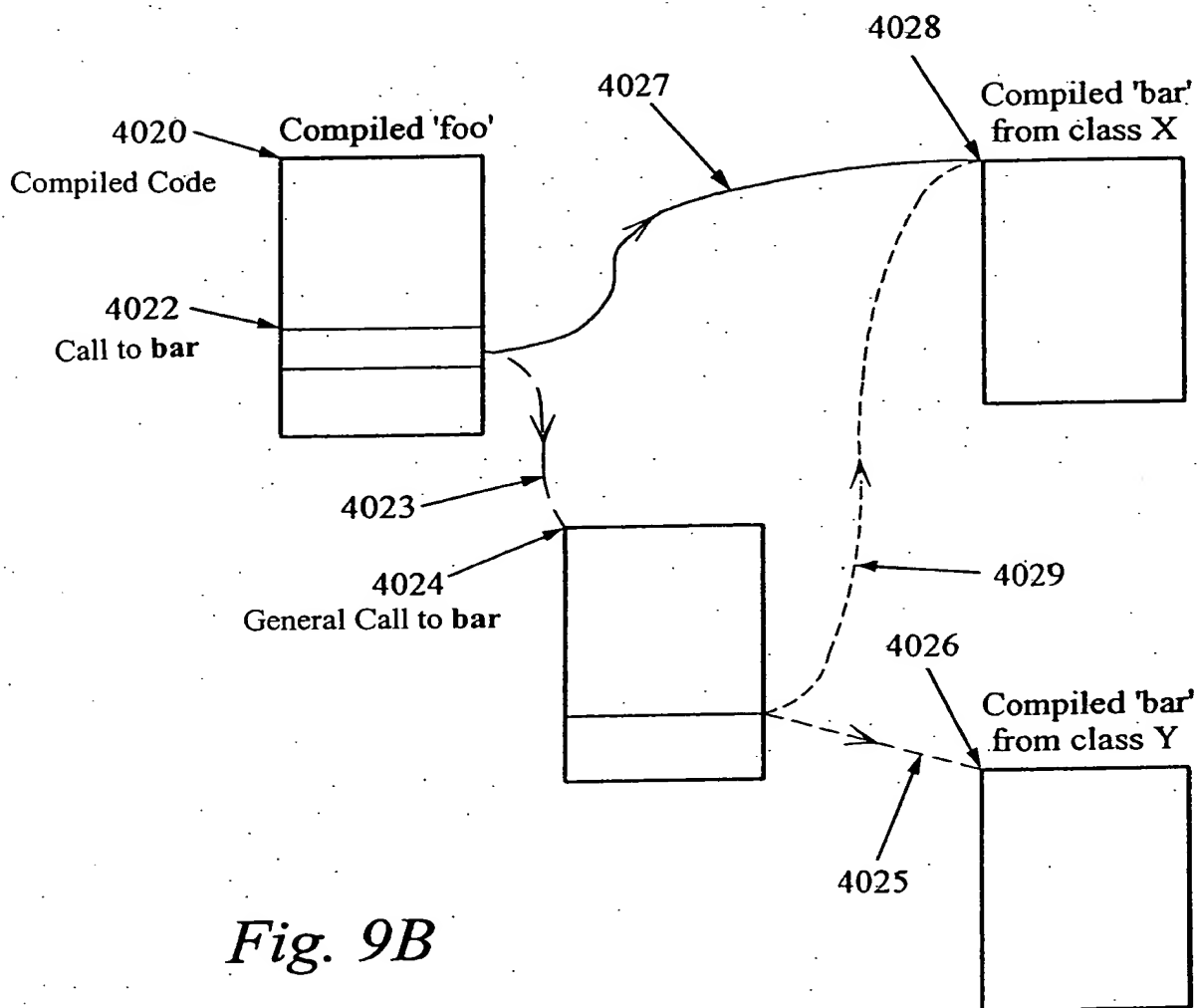
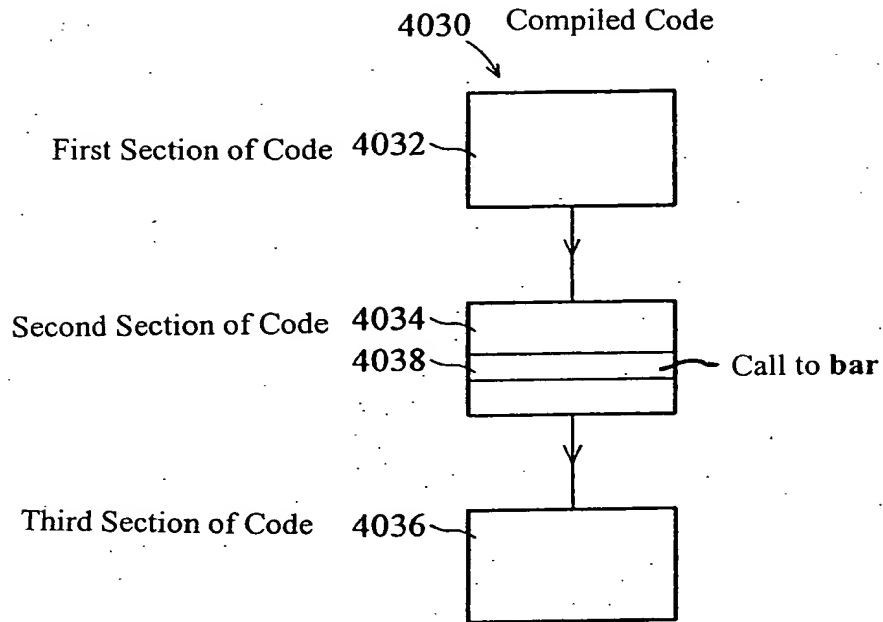
**FIG. 8D**

Fig. 9A



*Fig. 9B*

*Fig. 9C*

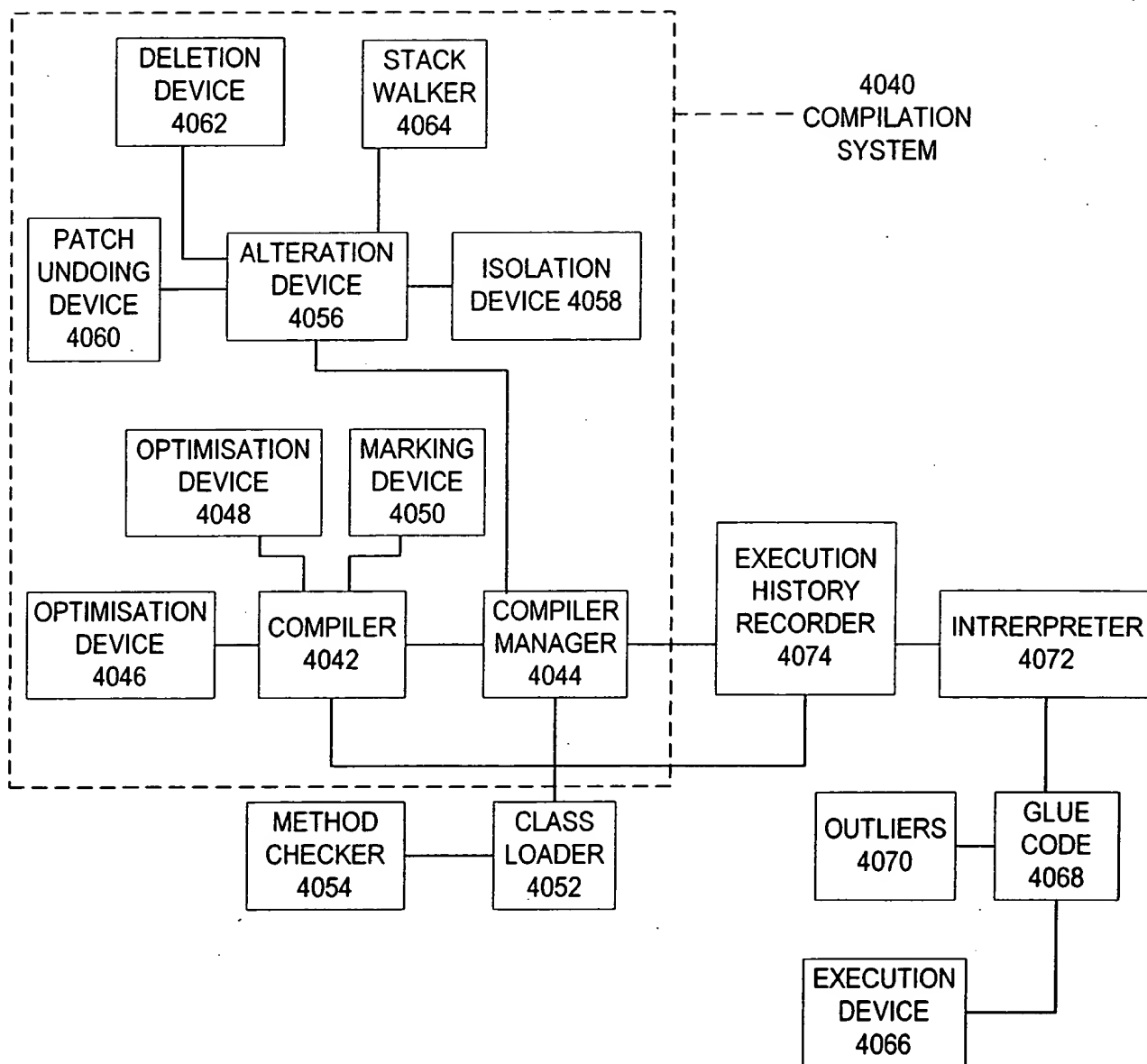


FIG. 9D

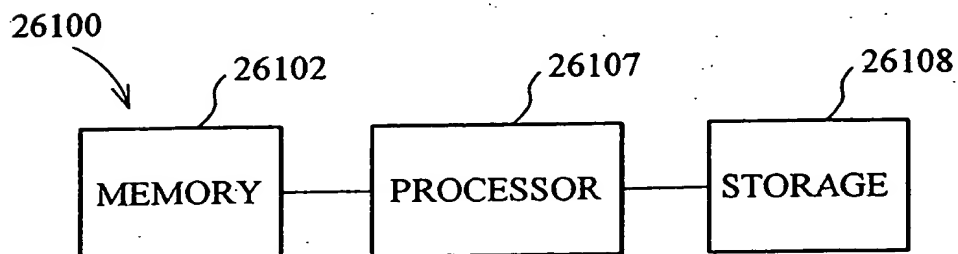
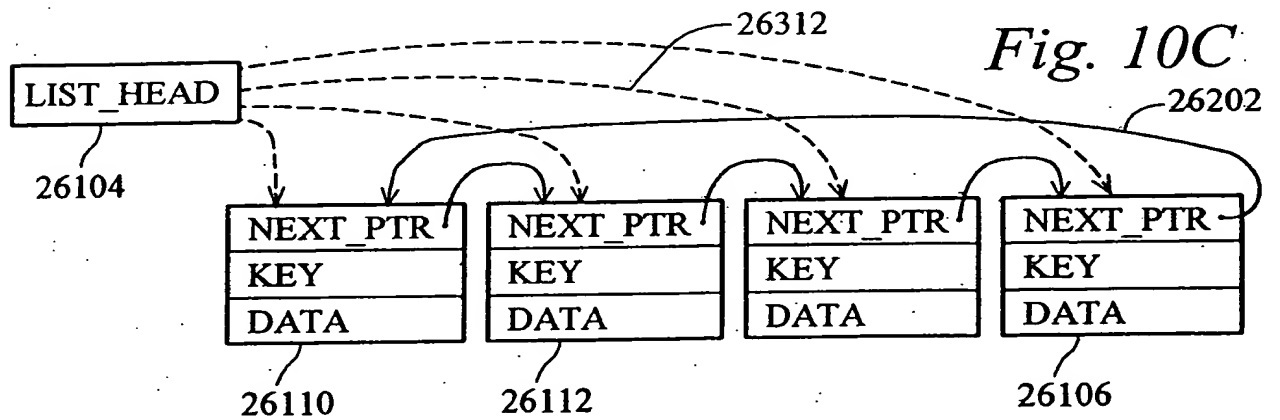
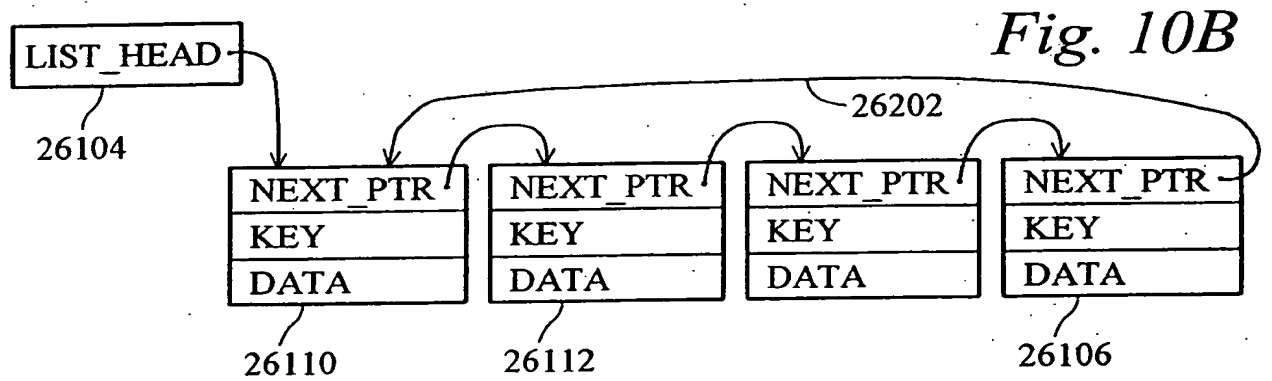
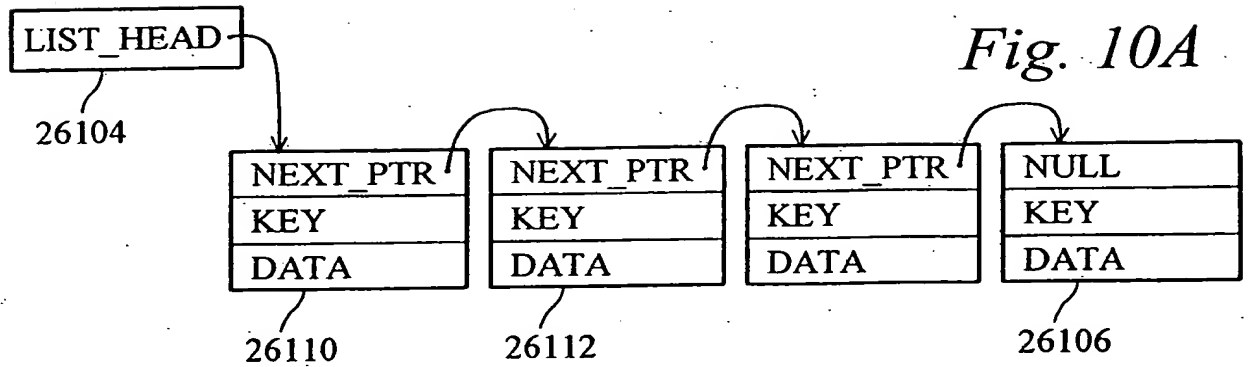
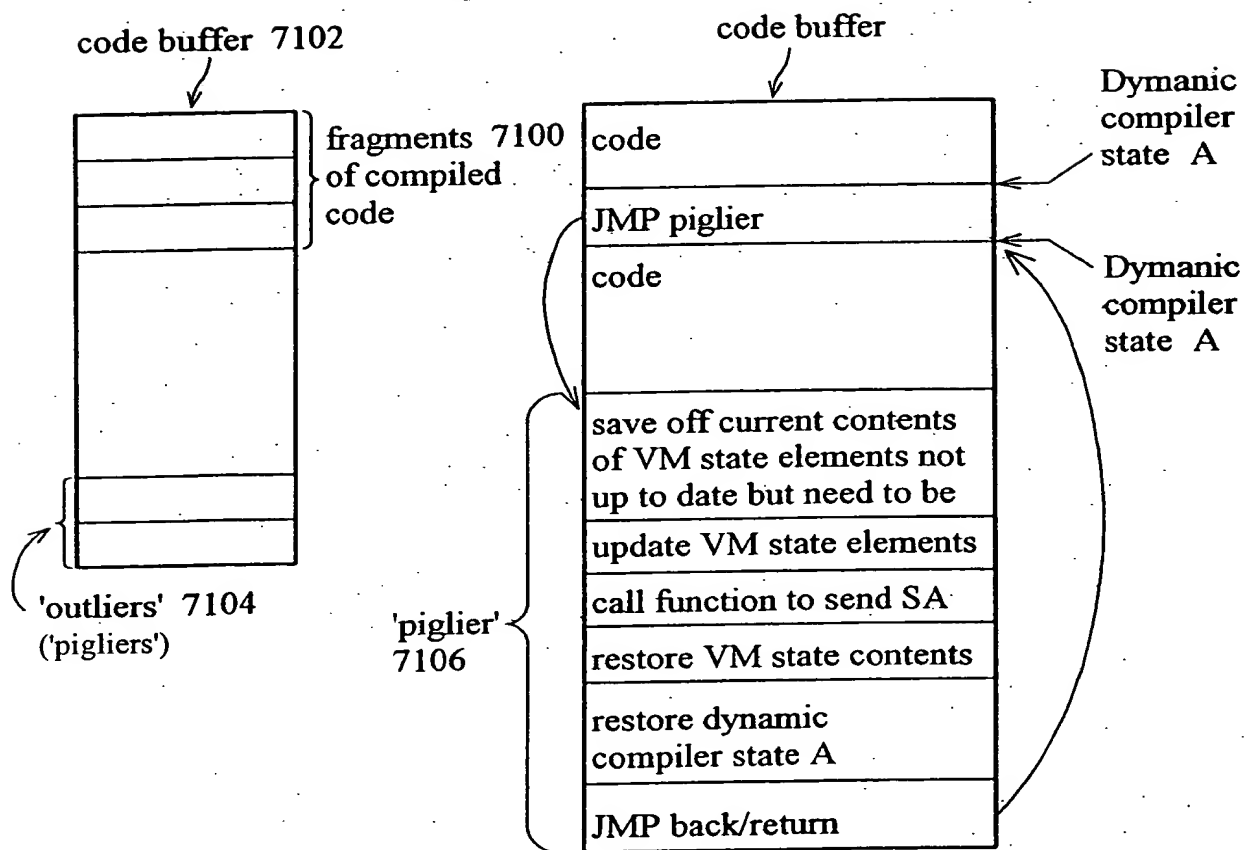
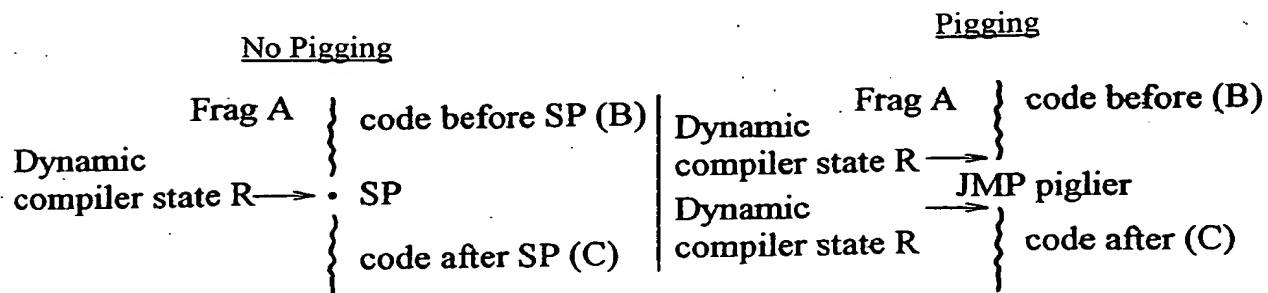


Fig. 11A*Fig. 11B*

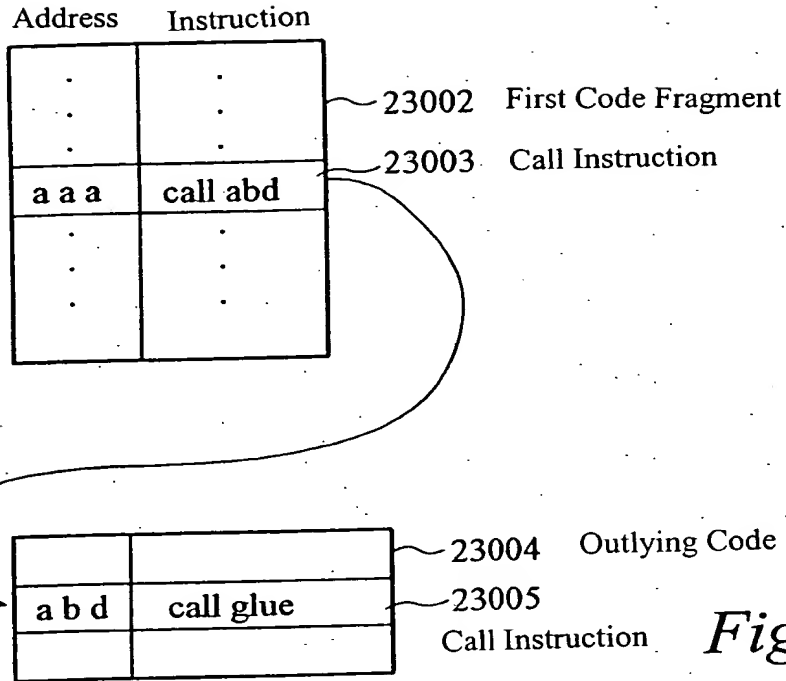


Fig. 12A

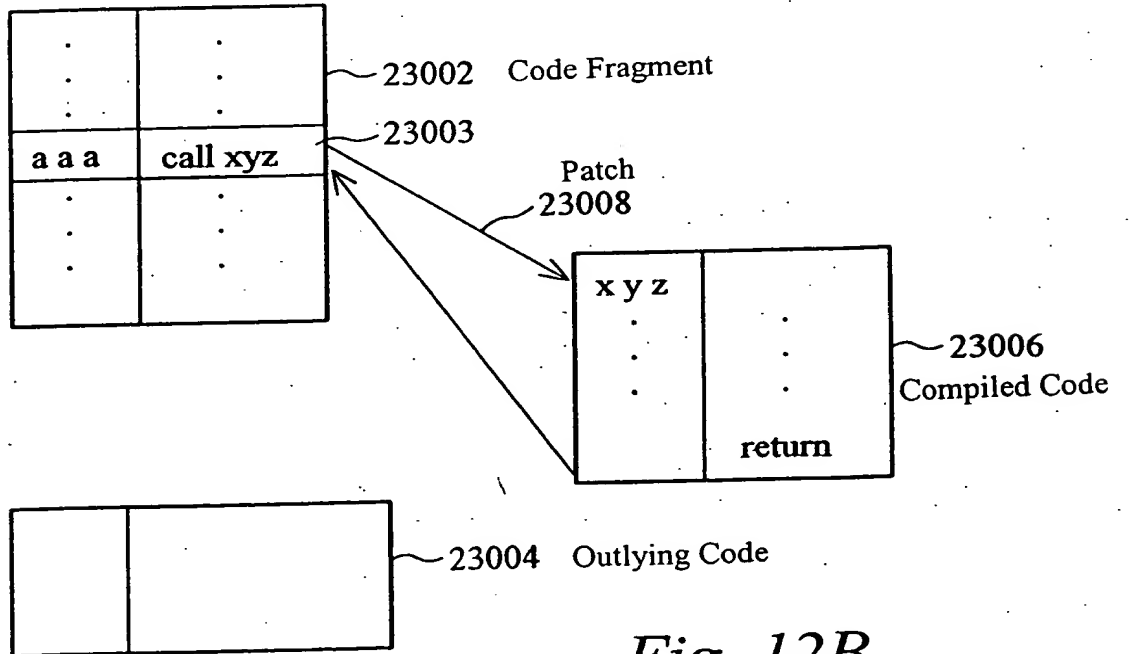


Fig. 12B

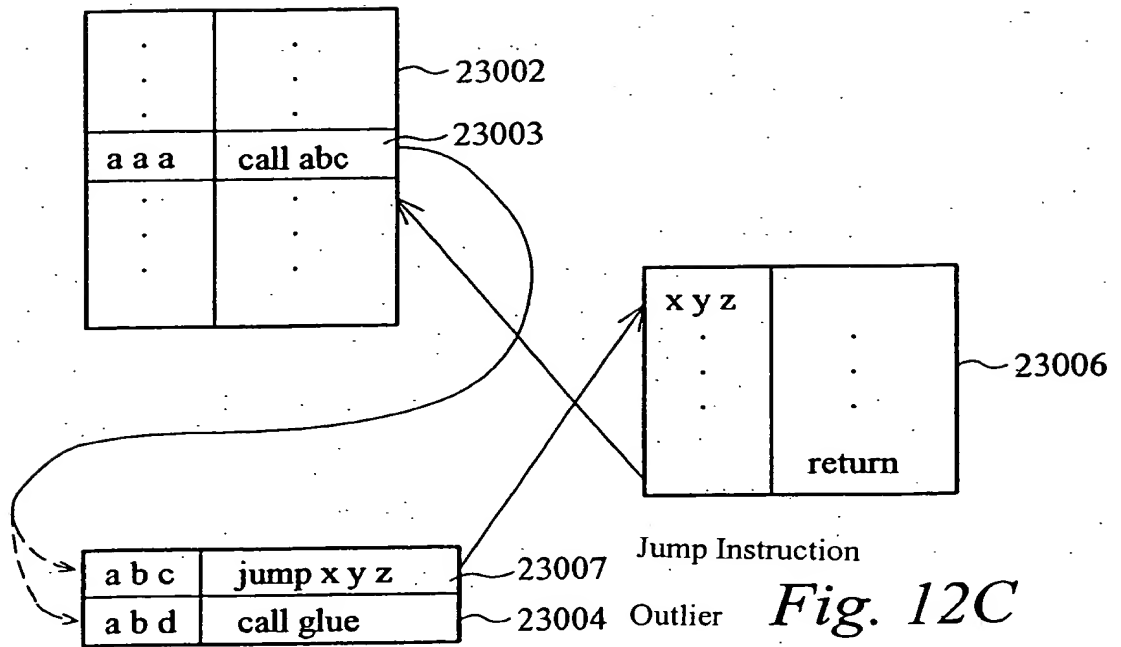
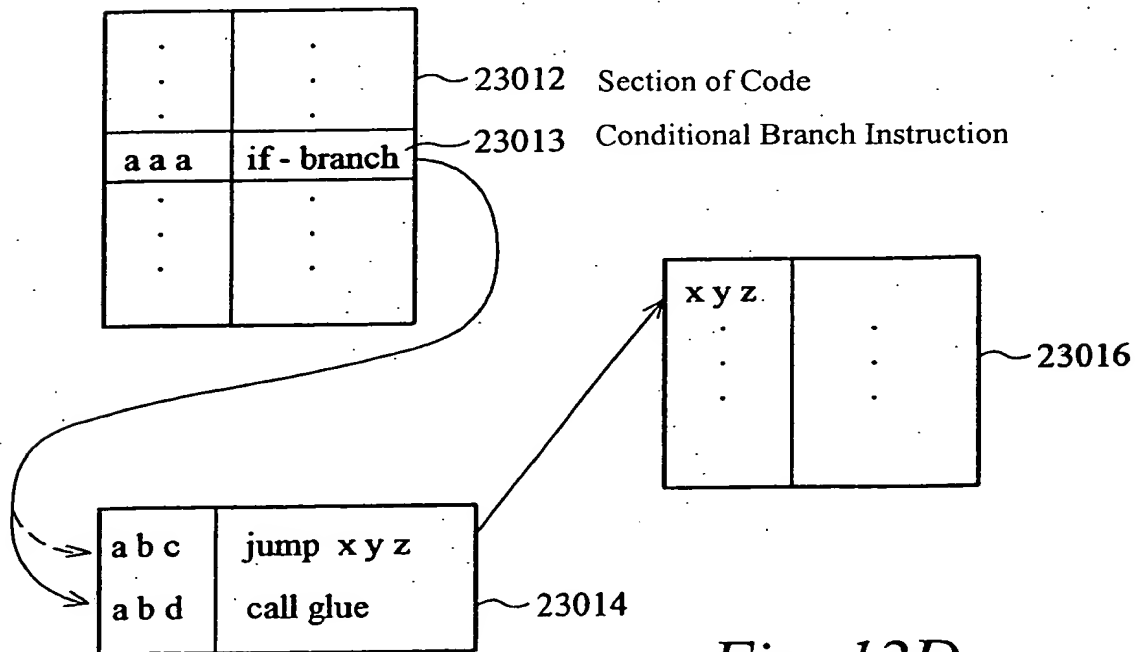
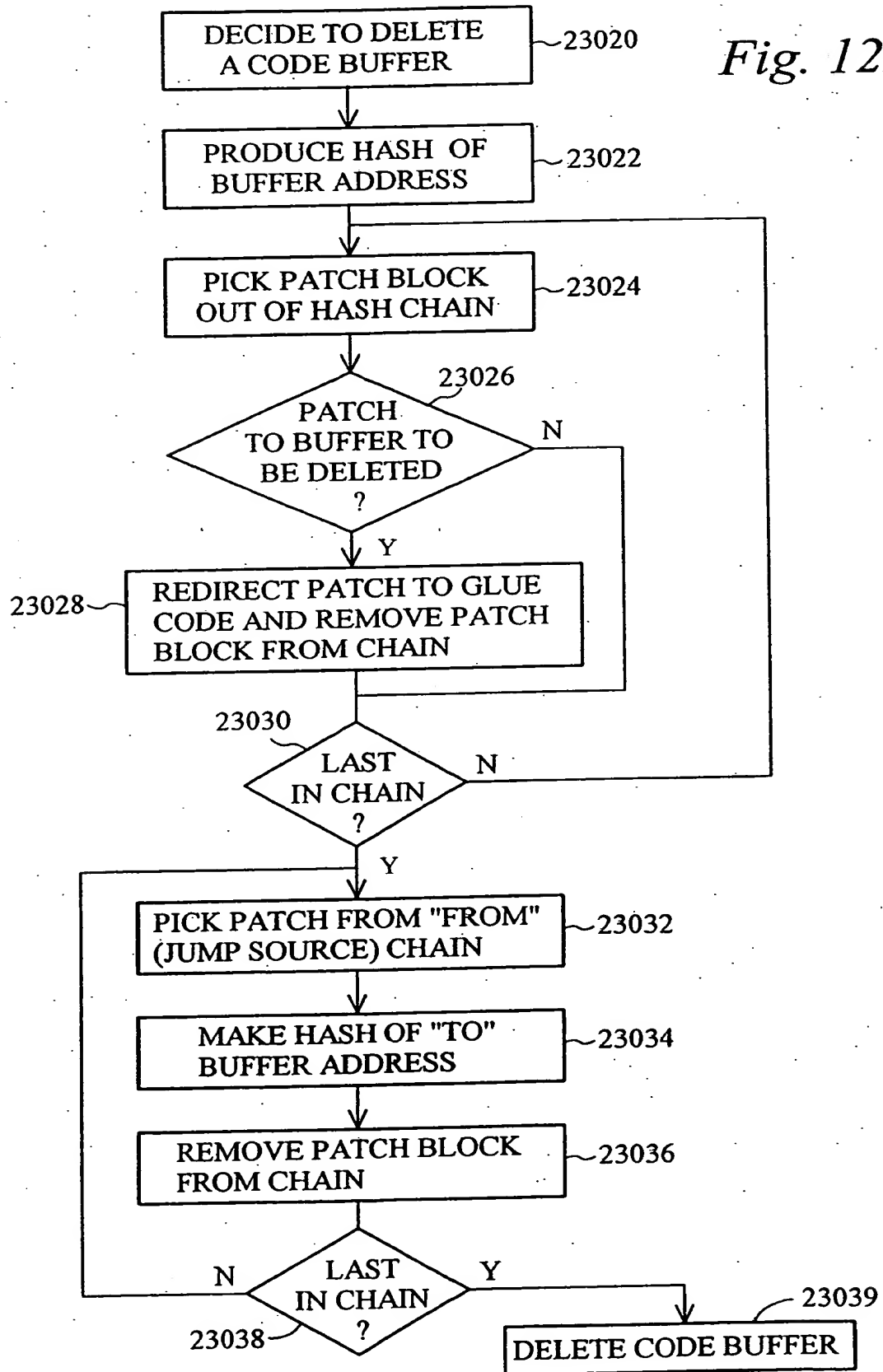
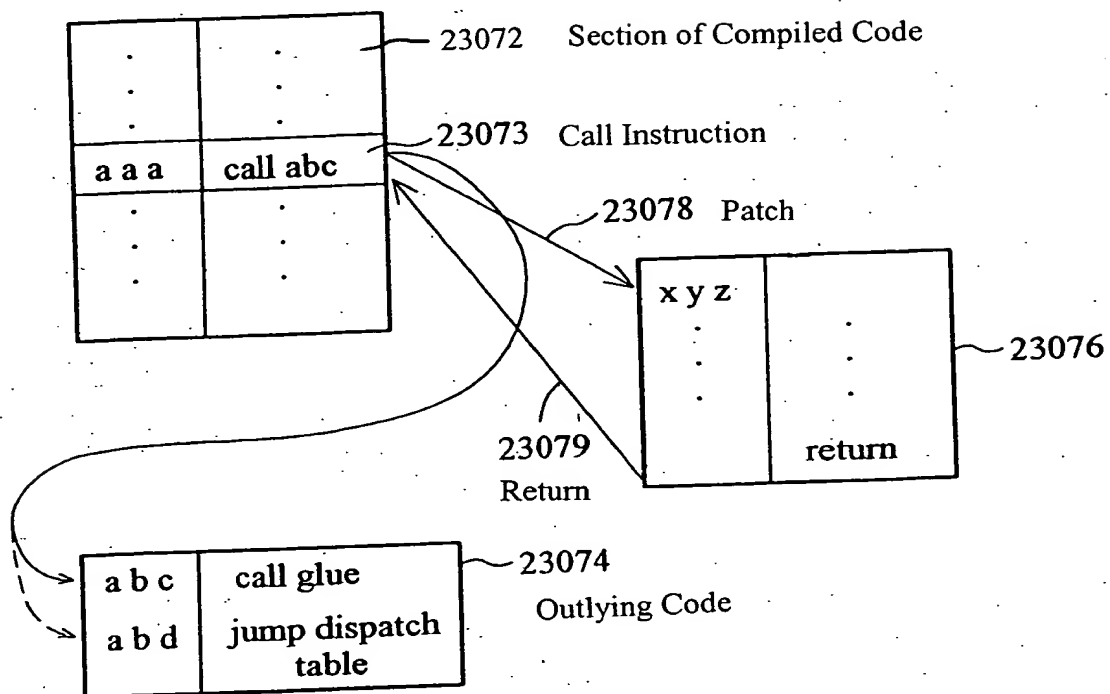
*Fig. 12C**Fig. 12D*

Fig. 12E



*Fig. 12F*

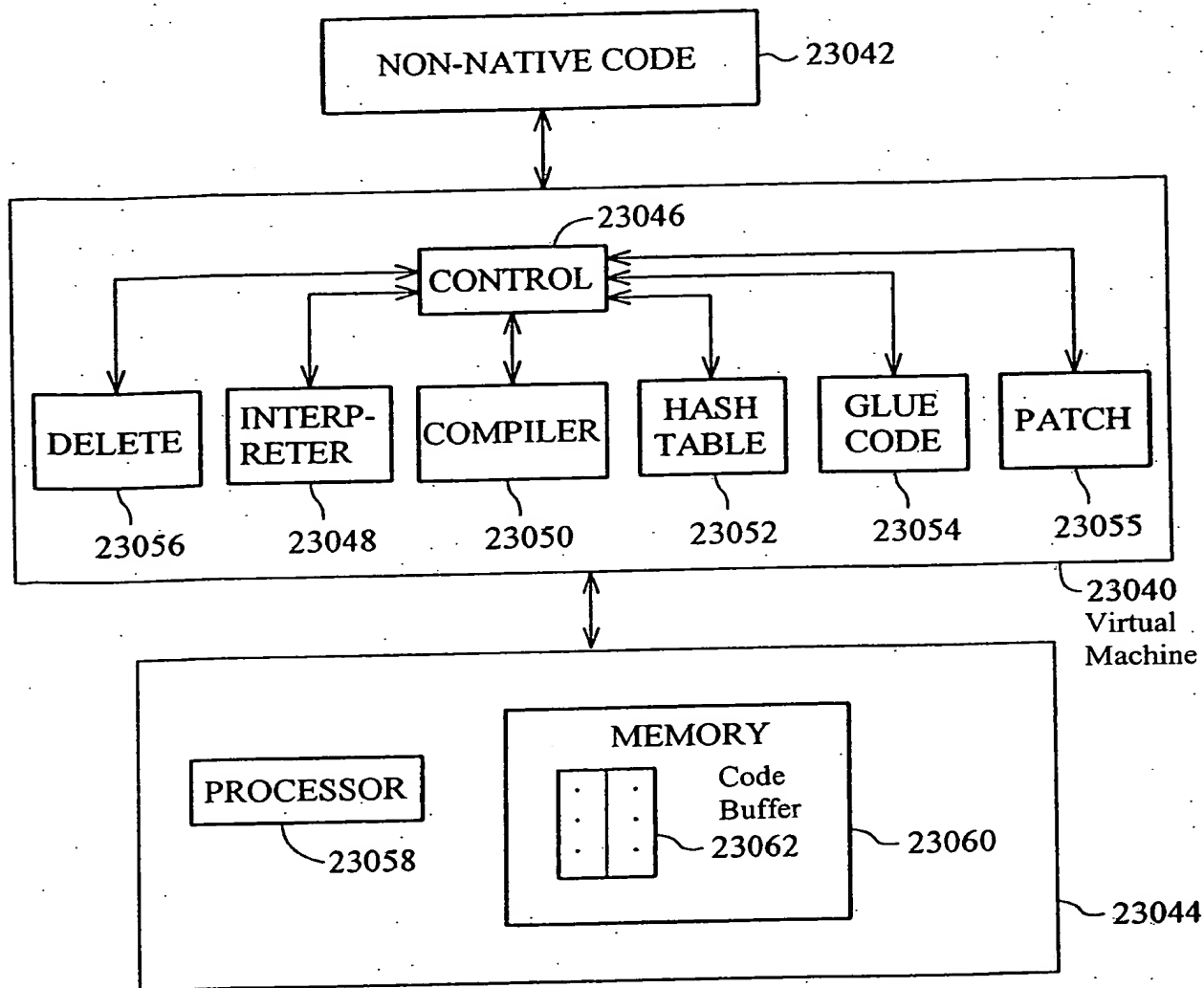


Fig. 12G